Published every Saturday by the Simmons-Boardman Publishing Company, 34 North Crystal Street, East Stroudsburg, Pa., with executive offices at 30 Church Street, New York

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The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.)

Subscriptions, including 52 regular weekly issues and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free; United States, Mexico and Canada, $6.00. Foreign countries, not including daily editions $8.00.

Subscriptions for the fourth issue each month only (published in two sections, the second of which is the Motor Transport Section) payable in advance and postage free; United States, Mexico and Canada, $1.00; foreign countries, $2.00. Single copies, 25 cents each.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name Registered U. S. Patent Office.

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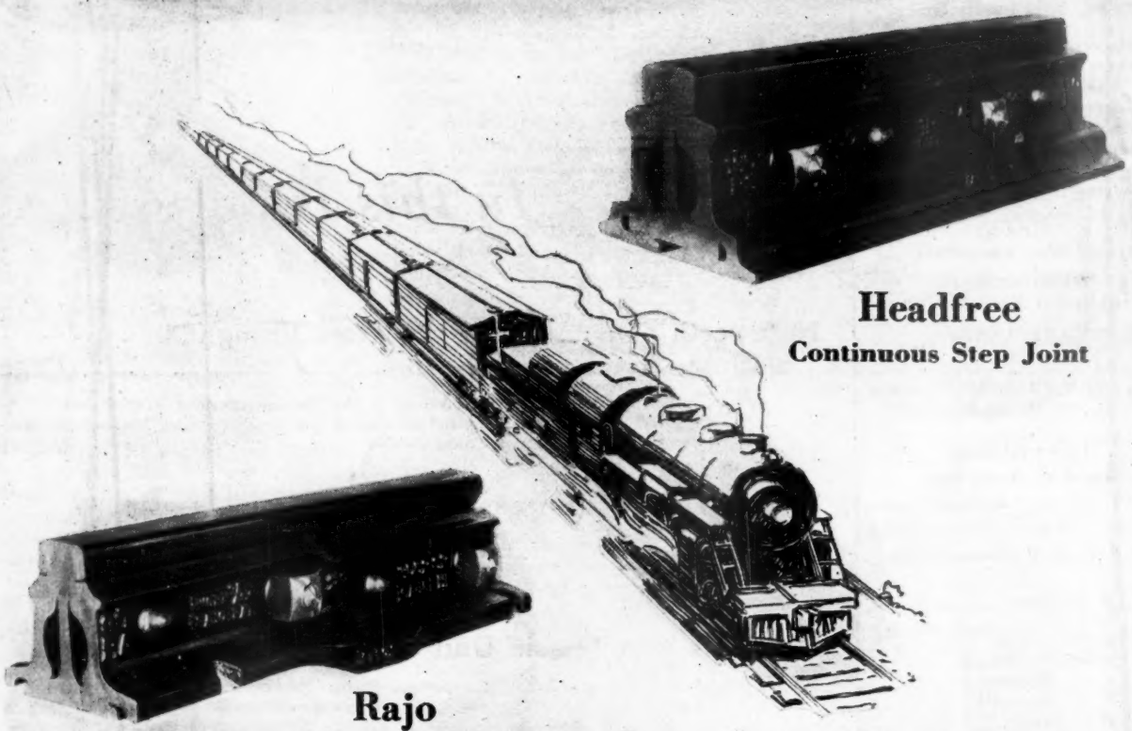
KEEP BOTH OLD AND NEW RAILS UP IN LINE AND SURFACE



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Railway Age

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Waterway Advocates Denounce Waterway Discussion

SOME developments that have occurred since the railway executives announced the government policies they believe must be adopted in fairness to the railroad industry raise the question as to whether the United States is being Russianized.

Stalin, the dictator of Russia, recently stated publicly that attempts to exert influence against the communist policy of the Soviet government would not be tolerated, but punished with death. The Rivers and Harbors Congress, at its session in Washington on December 10, profiting by Stalin's example, adopted resolutions in which it said: "We regret and deplore the efforts of the railroads to take advantage of present conditions to intensify their unwarranted attacks upon waterways. * * * A policy of improving rivers and harbors in order that transportation by water may be available for commercial use to augment and supplement transportation by rail and a broad national program to carry out such a policy have been approved by the American people and adopted by their representatives in Congress, and *no efforts from whatever source to defeat or delay that program will be tolerated by the people of our country.*"

"No Efforts" Against Waterways To Be "Tolerated"

Unlike Stalin, the Rivers and Harbors Congress did not say what would be the punishment for opposing the government's waterway policy, but an article from Washington that was published in the Wall Street Journal on December 10 purported to throw light on this. "A definite reaction against railroads' opposition to federal appropriations for development of inland waterways is becoming quite evident to those who have discussed the subject with members of Congress," this article stated. "Feeling has gone to the point where it would be comparatively easy to organize a sort of anti-railroad bloc not only to meet rail opposition to waterways but to *threaten reprisals by making it difficult for the roads to get legislation they might want.* * * * From those who look at matters from a political point of view, the Congressional reaction has not been unexpected, for *it is the rule of politics to reward friends and punish enemies.*"

Note carefully the language of the Rivers and Harbors Congress' resolution. *"No efforts"* to defeat or delay the waterway program will be tolerated. In what way have the railways heretofore opposed waterway development? Solely by discussion, including the compilation and presentation of data purporting to show that the proposed waterway development will be contrary to the public interest. The arguments and data presented in support of this view have been to the effect that large expenditures upon rivers and canals are not needed to provide the country with adequate transportation facilities; that if waterway development will cause reductions in freight rates it will also increase taxes; and that, including the taxes, the total cost to the public of transportation by inland waterway will be greater than by rail.

What the resolution of the Rivers and Harbors Congress means, therefore, is that the people will tolerate the presentation of every fact and argument that can be advanced in support of waterway development, as was done in numerous speeches at the recent meeting of the Rivers and Harbors Congress, but that they will no longer tolerate the presentation of facts and arguments in opposition to waterway development. The railways are interested parties, because the development of waterways will divert traffic from them. In order that the public may decide the waterway question intelligently and in accordance with its own interest it must hear those who favor as well as those who oppose waterway development. But the railroads are told that any opposition they may offer, whether by public discussion or otherwise, will not be tolerated. Of course, to declare it will not be tolerated is equivalent to declaring that those who disregard the warning given will be punished.

The constitution of the United States guarantees the right of free speech. The Rivers and Harbors Congress announces that free speech regarding the

waterway question is prohibited; and the Wall Street Journal reports that the prohibition will be enforced by the Congress of the United States treating as public enemies those who disregard it.

The officers, owners and employees of the railways are citizens. Who has any better right to discuss transportation problems or is likely to discuss them more intelligently? The leading railway labor organizations as well as the railway executives have adopted resolutions regarding waterways. Does the edict of the Rivers and Harbors Congress against "efforts from whatever source to defeat or delay" the waterway program apply to the more than one and one-half million railway employees and their leaders as well as to the railways? What are the labor leaders and railway employees going to say to waterway fanatics and members of Congress who prohibit opposition to waterway development and threaten to treat as "enemies" those who participate in it?

But just when was the Rivers and Harbors Congress authorized by the American people to decide and announce what kind of discussion the people will or will not tolerate? Ours is a democratic government. Democracy is government by discussion. Under democracy no question can be safely settled without previous full discussion. The American public wants full discussion of every important question, and the declaration of the Rivers and Harbors Congress that full discussion of the waterway question will not be tolerated is an insolent insult to the intelligence and fairness of the people.

Significant Opposition to Fair Play

At the same time it has important significance. It assumes that the time has come in this country when the railways will not be given fair play even in the discussion of public questions that vitally concern their future. If a body such as the Rivers and Harbors Congress feels justified in assuming that the railways will not be given fair play even in public discussions, it surely would feel much more justified in assuming that they would not be given fair play in the adoption of public policies. Is that assumption justified? It is, on the basis of experience.

The public discussion now being conducted in behalf of the railways is being carried on in support of policies the adoption of which they and their employees have asked in order that they shall be given fair play in competition with other means of transportation. The Rivers and Harbors Congress' declaration of intolerance regarding fair play to the railways even in public discussion should help to open the eyes of the public to the fact that deliberate and successful efforts are being made in many quarters to keep the railways from getting fair play, and that a new era of tolerance for them in both public discussion and the adoption of public policies is needed in the public interest.

The *Railway Age* has declared in the past that the movement for inland waterway development and the propaganda issued in its behalf are entirely unsound and are motivated by a peculiar form of fanaticism that disregards economic considerations. We always have believed that the public would turn against the waterway movement if adequately informed regarding its economic aspects. The resolution of the Rivers and Harbors Congress threatening the railways with public intolerance if they continue to present their side of the question is an admission by waterway advocates that their cause will not stand public discussion. The Inquisition in the middle ages burned philosophers because the inquisitors could not answer the philosophers and therefore could not tolerate them. Stalin, the dictator of Russia, punishes with death criticism of the policies of the Soviet government because he fears they will not stand discussion. Likewise, the Rivers and Harbors Congress prohibits further opposition to the waterway movement because its members apprehend that their program will not stand discussion.

This Is Not Russia

The *Railway Age* will continue, nevertheless, without any more timidity than in the past, to discuss the waterway question. The benighted waterway advocates who desire to restore transportation to what it was in the middle ages no doubt also would like to invoke the inquisition of that period to silence us, or, in lieu of that, to enforce their censorship with the death penalties of Stalin, but, as the middle ages are long past, and this country is not Russia, we dare still to hope that discussion of all public questions will continue to be tolerated and even desired by the American people.

"Relief" Legislation Which Would Prolong Depression

THE veriest novice in economics knows, or ought to know, that a return of prosperity in this country hinges on a return of confidence in the stability of our industrial structure and its promise of a prosperous future. Millions are needed for the relief of unemployment, but these millions should be spent in a manner to bolster up confidence, or at least not to tear down that which remains.

But what can be said of a plan such as that advanced by the radical Senator Shipstead to vote a $500,000,000 federal bond issue to permit the completion of the entire national waterways program in five years? Aside from the fact that most of the money spent on waterways is, from a standpoint of sound economics, equivalent to pouring it down a rat hole, thereby reducing prospective national income, what effect would such expenditure have on the unemployment situation?

It is as clear as crystal that any such measure would

create far more unemployment, in the long run at least, than it would alleviate, by reason of the rigid economy and further reduction in forces which it would enforce upon the railroads. Moreover, it could not do otherwise than seriously delay a return of confidence in our industrial future. No industry can afford to expand when it is assured that every dollar it invests is to be jeopardized by unjust, uneconomic and unwarranted government competition. And a serious and prolonged decline in railroad credit would affect adversely the fortunes of every man, woman and child in the country, so widespread is railroad ownership, direct and indirect. The effect upon industries dependent upon efficient railroad service would be disastrous.

A similar brand of statesmanship is displayed by Senator Norris, who is aroused at a prospective rise in the price of steel and demands an investigation. But it is precisely a rise in prices, ending a constant downward tendency, which would encourage buyers to return to the market, thus promoting the return of prosperity. Is it too much to expect that United States senators should know as much economics as a college freshman of only moderate intellectual powers? Or are the worthies just named really interested in seeing a return of confidence and prosperity? Are they not rather, knowingly or not, doing what they can to prolong uncertainty and plunge us even deeper into depression and unemployment—misery and want being the only soil in which the seeds of Socialism or Communism flourish?

A Bus Operator Diagnoses Railway Passenger Problem

ON our Communications page in last week's issue we published an important letter from a successful bus operator, formerly a railway officer, on the subject of the railways' passenger traffic problem. The writer, H. E. Barber, president of the Egyptian Transportation Company, said that "the railroads themselves hold the key to the situation, and not the lawmakers or the regulatory bodies."

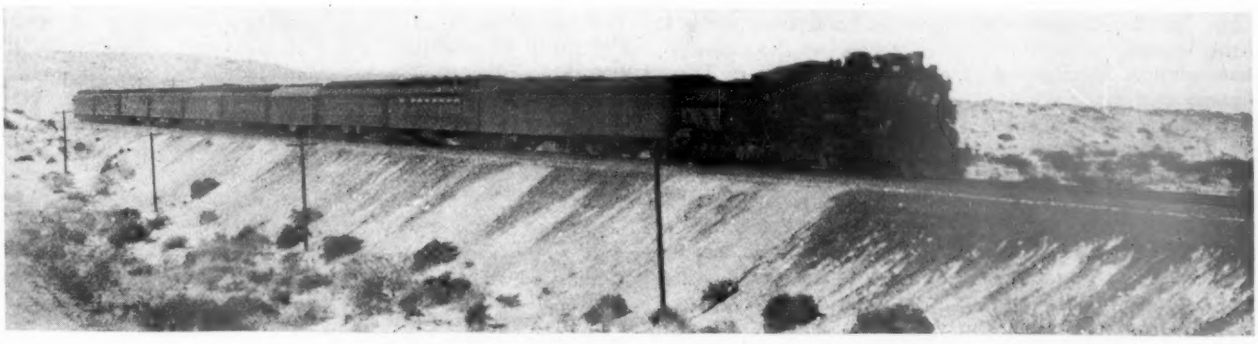
Calling attention to the growth in Pullman business which occurred simultaneously with a great decline in day coach travel, Mr. Barber holds that it is evident that reasons of economy forced those who could not afford Pullman service to turn to the highway. The steam train, he contends, for short haul service cannot compete with the bus. Handling such business by train must result in losses, whereas it can be moved in buses at a profit. If the railways, he continues, should provide this service by bus, they would turn the loss into a profit. Freed of this drain upon their revenues, they could well afford to make such reductions in long haul day coach rates as would assure a great increase in traffic, and an end to the menace of long distance bus competition. The railroads, in other words, by clinging to steam train service where it can never compete with buses, are handicapping themselves in establishing a rate basis which would enable them to meet bus competition for long haul business.

Mr. Barber's reasoning is cogent. He admits freely that passengers can be transported for long distances at much lower costs by rail than by highway. The railways, in his opinion, are insisting upon rail service in a field—the short haul—where the bus is the more economic agency; and, at the same time, by their rate policy, they have permitted the entry of buses into a field where railways are economically best suited for the task.

Our correspondent does not mention taxation or regulation of buses which, we believe, should be greatly strengthened. Nevertheless it must be admitted that, even on the present inadequate basis of bus taxation, the cost of providing long distance highway transport is greater than that of similar transport by rail, given the same ratio of average load to total capacity—and still buses have taken business by making a lower rate.

More adequate taxes and regulation would undoubtedly tend to bring about a better economic division of traffic between rail and highway. But does progress need to wait for this to develop? Have the railways even now gone as far as they might in substituting buses for unprofitable trains, or in going vigorously after such traffic as can be handled cheaper by rail than on the highway? Mr. Barber's challenging letter gives all of us who are interested in this problem something very definite on which to ponder.

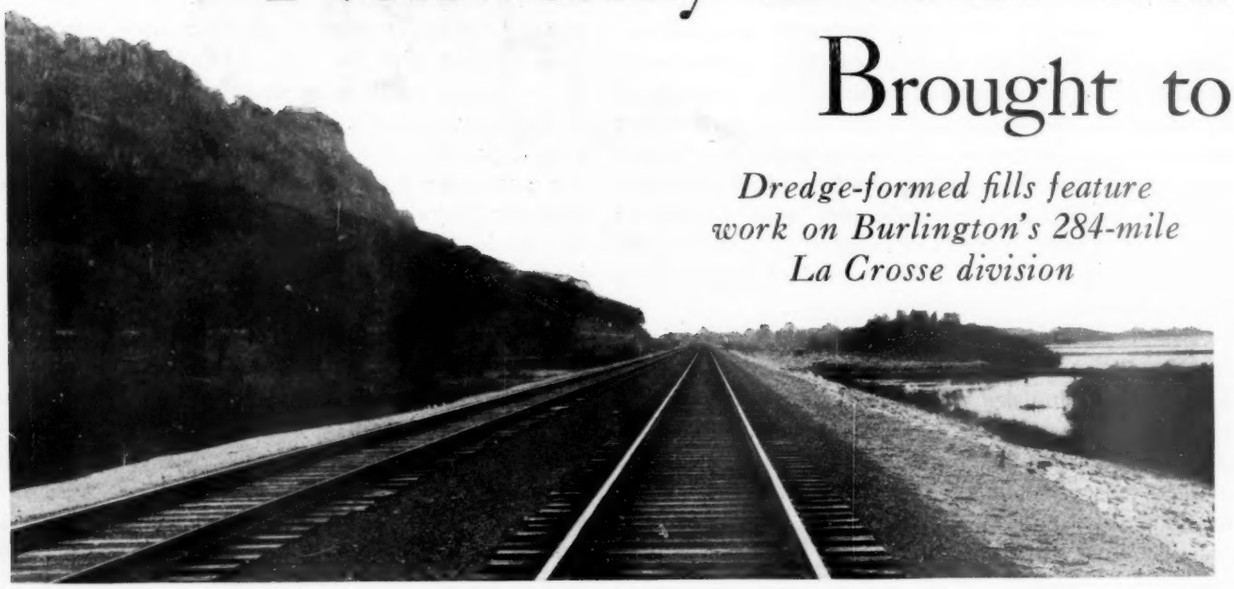
* * * *



Along the Southern Pacific in Southwestern New Mexico

Noteworthy Double-Track Brought to a

Dredge-formed fills feature work on Burlington's 284-mile La Crosse division



Relocation Resulted in Marked Improvement of the Alinement

BETWEEN 1909 and the end of 1929 the Chicago, Burlington & Quincy spent nearly $12,000,000 in a progressive program of second tracking and grade and line revision on its La Crosse division, which extends for 284 miles along the east bank of the Mississippi river from Savanna, Ill., to St. Paul Minn. This route, which is one of remarkable scenic beauty, lies for most of its length at the base of bluffs that rise from 300 to 500 ft. above the flood plane of the river. The location is one naturally favoring minimum gradients, the original line having a 0.3 per cent ruling grade, but owing to the irregular face presented by the bluffs, an important element in their scenic attractiveness, the line as located and built was one abounding in curvature, curves of three degrees predominating but with a few curves of sharper curvature. However, in the program of improvements the elimination of curvature was one of the prime objectives, with the result that the rebuilt double-track line is distinctive by reason of its long tangents and easy curves which on most of the mileage do not exceed one degree. The improvement also included a reduction in grades to a maximum of 0.2 per cent in both directions.

Original Line Completed in 1886

The line which now comprises the La Crosse division of the Burlington was chartered in 1885 as the Chicago, Burlington & Northern and opened for traffic in 1886. It came under the domination of the Chicago, Burlington & Quincy in 1890 when the latter bought a controlling interest in it, but was not fully consolidated with the parent line until 1899. The river line was of primary importance to the parent road because it afforded an entrance into the Twin Cities, thereby enabling the Burlington to establish Chicago-Twin Cities service. Obviously, the importance of this line increased when the Burlington came under the domination of the Great Northern and the Northern Pacific, since it serves as the primary physical connection between the Hill lines and their subsidiary.

For a number of years the chief value of this connection was its ability to function effectively as a link between the northern roads and Chicago and the lines extending east and south from that railway center. But, it was soon made to serve another purpose, for beginning in 1903 the Burlington was extended by purchase and construction to the coal fields of southern Illinois with the primary object of developing a low-grade route for coal movement to St. Paul and the Northwest, a distance of 648 miles. The line from Savanna to St. Paul forms an essential part of this route which is one of the longest lines having a 0.3 per cent ruling grade in the United States.

As the project for the line south of Savanna contemplated its completion in 1911, a necessary corollary was a program for the improvement of the line north of Savanna, since this portion not only carried a growing freight and passenger traffic be-

The La Crosse Division Comprises an Important Element in the Routes from St. Paul to Chicago and to the Southern Illinois Coal Fields

Program Close

Completed Double Track at Fountain City, Wisconsin

tween Chicago and the Twin Cities, including eight through passenger trains daily between Chicago and Puget Sound, but had to provide adequate capacity for the anticipated coal movement from the southern Illinois fields, and also considerable freight originating at and destined for St. Louis and other Missouri points. The program of improvement which was undertaken in 1909 provided for complete second tracking, the reduction of grade to a maximum of 0.2 per cent and, as previously stated, a large amount of line revision to eliminate curvature and reduce the rate of curvature.

Three Old Sections of Double Track

At the time that the program was established, there were three portions of the line on which the Burlington enjoyed the benefit of double track or its equivalent. From Portage curve (just north of Galena Jct., Ill.) to East Dubuque, 12.79 miles, the Burlington uses the double-track line of the Illinois Central. From Herrington Tower to Sullivan Tower, a distance of about eight miles, the railway has an alternate main line used by freight trains which avoids the grade crossings with streets on the passenger line through La Crosse, Wis. Between St. Croix, Minn., and the junction with the tracks of the St. Paul Union Station Company at St. Paul, a distance of 30 miles, the Burlington has had the benefit of double-track operation since 1903 through a paired-track arrangement between that road and the Chicago, Milwaukee, St. Paul & Pacific, which crosses from the west bank of the river at Hastings, Minn., to the east bank at St. Croix. The Milwaukee line has grades of 0.7 per cent against northbound movement between St. Croix and Newport and 0.5 per cent grades against southbound trains between Newport and St. Paul. The Burlington line, which had no grades in excess of 0.3 per cent in either direction, was built on a separate location close to the river between St. Croix and Newport, where it crossed the Milwaukee line and occupied a parallel location on the side away from the river from Newport to St. Paul. When the paired-track contract was negotiated in 1903, it provided for the use of the portions of the two lines nearest the river for northbound trains and the other portions for southbound trains, i. e., left-hand operation, but this permitted the use of the 0.3 per cent Burlington line for the uphill movements in both directions.

Physical Characteristics of the Location

While it was stated above that the Burlington's La Crosse division is located along the base of the bluffs bordering the east side of the Mississippi river, that statement does not tell the entire story, which calls for a more complete description of the terrain occupied. The valley or flood plain occupied by the Mississippi river represents what remains of the gorge of some prehistoric stream of much greater discharge than the present river. The once rugged and precipitous sides of the gorge have weathered until only about one-fourth to one-fifth of the rock ledge is exposed above the top of tree-covered talus slopes. The present river occupies only a part of the bottom lands that lie between the Wisconsin and Minnesota bluffs, and follows a meandering course, touching the foot of the bluffs first on one side and then on the other, or is separated from the bluffs by one or more sloughs and the intervening islands. An exception to this general characteristic is encountered between Trevino, Wis., and the vicinity of Hager, where owing to an obstruction in the floor of the valley above the mouth of the Chippewa river, the waters of the Mississippi are backed up to form what is known as Lake Pepin, a body of water extending virtually from bluff to bluff for a total distance of nearly 30 miles upstream.

While the general course of the river valley between St. Paul and Savanna is a singularly direct one that affords vistas of many miles, the bluff walls are subject to irregularities of two kinds. First, there are the local alternations of convex and concave curves forming what is virtually a series of huge buttresses separated by steep ravines and also by minor valleys that reach back a mile or more. To these irregularities must be added the breaks in the bluff walls encountered where larger tributaries, such as the St. Croix, Chippewa, Buffalo, Black and Wisconsin rivers enter the basin of the Mississippi. These streams occupy lateral valleys only less rugged than the main stream and in-

troduce breaks in the bluff wall ranging from a mile to five or six miles in width.

Variations in the Terrain

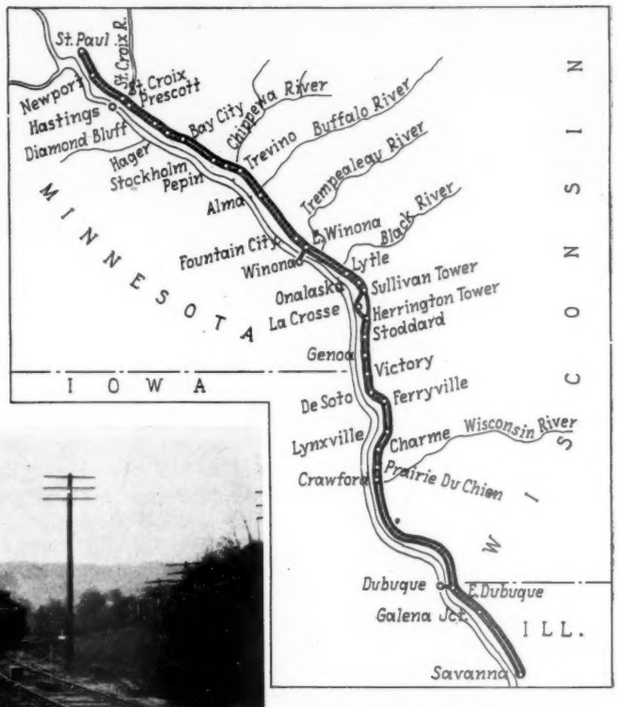
Along most of the location the toe of the talus slope is at the level of the flood plane and thus either contacts directly with the main channel of the river or one of the many sloughs, or with bottom land that is subject to overflow during high water. This situation prevails also at the confluence with the lateral streams, the low bottom lands of the river being continuous with bottom lands of the tributaries and extending some miles up the valleys of these tributaries. There are exceptions to this rule, however. In the vicinity of Prairie du Chien, for example, at La Crosse, and for a part of the distance between Fountain City and Alma, there are broad level benches or prairies at the base of the bluffs and at such elevations above the river that they are not subject to overflow.

The bluffs have their greatest height and ruggedness in the stretch between Hastings and Prairie du Chien, for south of the latter place they decrease in both ruggedness and height.

Obviously the construction of the line from Savanna to St. Paul imposed the least difficulty where it could be built across the several stretches of prairie encountered at Prairie du Chien, La Crosse and a few other points. In the main, however, it was necessary to support the line above high water level against the face of the talus slopes of the bluffs, or on embankments adjacent to the toe of the slope. But owing to the height of embankment required in most places, locations on or across bottom lands were avoided because of the amount of fill required. As a consequence, the original line, following the contour line of the bluff slope, was an exceedingly crooked one, and at the crossing of the large lateral streams it was carried back away from the river on rather long loops for the purpose of reducing the length of the bottom land crossings to a minimum. An exception to this rule is observed in the territory between La Crosse and East Winona, where the bluffs recede for long distances to join the hillsides bordering the valleys of the Trempealeau and Black rivers. To avoid the excessive increase in distance entailed in a location following these bluffs, the line was built boldly across the bottom lands on embankments and trestles. The valley of the Chippewa river was also crossed on an embankment four miles long.

The construction of second track on this line was accompanied by relocations involving the abandonment of a total of 65 miles of the original line, or 27 per cent of the 240.4 miles of line involved in the project. These relocations resulted in the elimination of 2,432 deg. of curvature, or over 6½ circles.

Improvement of the alinement of a bluff-side location normally offers the alternative of embankment cutoffs at the concave curves or the construction of tunnels or cuts opposite the convex curves. In this case, however, the adoption of the latter alternative was impracticable save in two minor cases in the vicinity of Victory, Wis., where short relocations were carried through cuts inside the old line. Tunnels were out of the question. In the first place, the projecting buttresses of the bluff face take the form of such long easy curves that resort to cutoffs on convex bends would have entailed tunnels of prohibitive length. Furthermore, such tunnels would have had to be driven largely through the unstable debris of the talus slopes.

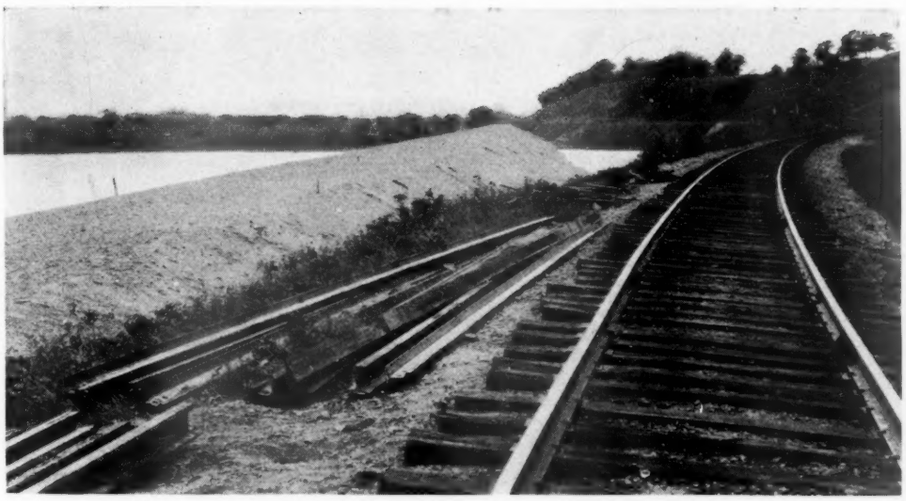


Above—Map of the La Crosse Division. Left—The New Cutoff Across the Buffalo River Bottom, Old Line at the Right

In fact, it is only in a few locations south of the Wisconsin river that the grading operations encountered the solid rock ledge. Excavation elsewhere was entirely in sand, earth or rock debris.

Resort to Dredging

There was, however, another reason why the improvement of the alinement was carried out mainly by building cutoffs across the bottom lands opposite the concave bends in the bluff face, namely, the low cost of building embankments of material dredged from the river or its sloughs. With the ready availability of large deposits of material suitable for dredge excavation in close proximity to the line, it was but natural that the possibilities of dredge work should have been investigated, and the conclusion reached after careful study, were fully borne out by subsequent experience. Much of the dredge fill was placed at a cost per cubic



An Example of the Dredge Formed Embankment Illustrating One of the Shorter Relocations

yard of not much more than one-fourth the cost of fills made from shovel excavation.

For this reason, there was in general, no advantage in an attempt at a partial balancing of quantities by widening the cuts on the convex bends at the shoulders of the bluffs, and in a number of locations, the entire old line was abandoned for considerable distances, the new line being placed outside the old, even opposite the convex curves. This plan was followed for the distance of five miles between the Chicago & North Western crossing opposite Winona, Minn., and Fountain City, Wis., where it resulted in the elimination of 439 deg. of central angle.

The most drastic cutoff was that at the crossing of Buffalo river, where the new double-track line is carried straight across the bottom lands for a distance of 2½ miles, introducing a deviation from the old line of a maximum of ¼ mile. Near Bad Axe, Wis., a cutoff a mile long departed from the old line some 800 ft. One across Winneshiek slough near De Soto is 2½ miles long and another across an arm of the same slough near Lynxville is a mile long.

Large Yardage of Dredge Fills

As a consequence, dredge filling comprised the most important feature of the roadway construction amounting to 6,860,000 cu. yd. or about 48 per cent of the total yardage placed in embankment. This does not mean that shovel excavation was a minor factor in the project, for at many points along the line cuts were widened by shovel excavation to meet an important requirement of the work, namely, to provide a blanket of bluff debris or coarse rip rap for the embankment slopes.

The dredge fills are subject to almost no settlement and are remarkably stable, even when the slopes are inundated by the water of the river or the sloughs. But many of the embankments throughout the entire length of the line are subject not only to inundation of the side slopes, but also to the eroding effect of stream flow and, in the case of the line along Lake Pepin, there are the further effects of wave action and ice thrust. Consequently, bank protection called for a large yardage of bluff debris.

These considerations also influenced the location of the line along the shore of Lake Pepin for although several cutoffs were constructed that involved the building of embankments in as much as 20 ft. of water, the greater portion of the line was so located as to permit of support against the bluff side.

Some of the individual cuts were of considerable size. North of Bay City, Wis., 400,000 cu. yd. of sand was removed from one cut. South of Pepin, Wis., there is a cut from which 170,000 cu. yd. of bluff debris was removed, and in the 18 miles between Stockholm and Hager, the total excavation amounted to 800,000 cu. yd.

Dredging Methods

The first dredge fill was constructed on a cutoff at Genoa, Wis., with a dredge owned and operated by the railway, and for several years thereafter the Burlington continued to handle the dredge work with its own forces and plant. Subsequently, however, this plan was abandoned and all of the later work was done by contract.

Before proceeding with any fill construction to be done by dredging, it was necessary to secure permission from the district engineer of the U. S. War Department covering any necessary encroachment on the river or any of the sloughs, as well as the details of the dredging operation, particularly the place where the dredging was to be done. Dredging contracts were awarded on the basis of a price per cubic yard in place, the contractor to determine where the dredging was to be done, subject, however, to the requirement that the material placed must be sand. Alluvial silt or mud was not accepted.

The contractors engaged in this work employed dredges having a maximum output of 4,000 cu. yd. in two shifts of 12 hr., using a 12-in. delivery pipe. Such dredges have delivered material for distances of 1,200 ft., and where a booster pump was provided this has been increased to 3,500 ft. In some cases, the dredged material was lifted to a height of 27 ft. above water level, the discharge pipes being supported by chains from shear-legs. The typical crew for one shift of a dredge outfit was as follows:

1 engineer
1 oiler
1 fireman
1 coal passer
} on the dredge

10 men on the fill (maximum number)
2 men loading coal on a barge
2 men in a launch towing coal barge

Shovel Work Entailed Use of Operated Line

Because the shovel excavation involved operations close to the operated line and the frequent use of the main line as a loading track and main-line train haul, the Burlington followed the practice of doing the

Much of the Line Lies at the Base of the Bluffs Along the Mississippi River

greater part of the excavation with company equipment and forces, while handling under contract all excavation on cutoffs where the work involves no interference with regular train operation. For example, in 1928 a cutoff south of Hastings involved 92,000 cu. yd. of shovel work that was moved by contract. During that same season, on the other hand, the Burlington had in operation two 70-ton, one 100-ton and one 85-ton railroad-type shovels and two small crawler-type shovels. The material removed with this equipment was hauled in 20-yd. dump cars in 20-car trains. As nearly all excavation was side hill work adjacent to the main track, the cars were loaded on the main track until the cut had been widened sufficiently to permit the placing of a loading track. The grading trains generally carried a spreader car, so that each train-load of material was spread immediately after dumping.

In some of the earlier work on the south end, embankments were made with sand taken from shovel pits opened for this purpose. South of Ferryville the embankment for one track on a short cutoff constructed in 1913-15 was built with a dragline outfit and after the track had been laid on this, the bank was widened for the second track with train-haul material. About the same time, the embankment for second track alongside the old line south of Charme was also made with a dragline excavator. In 1910 some fills between Herrington and Stoddard were built by team work. However, these were exceptions to the general practices previously outlined.

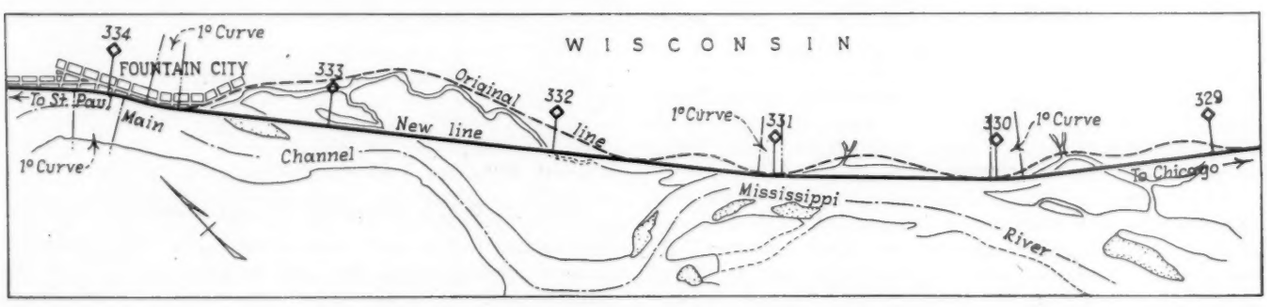
Main tracks are spaced 14 ft. center to center in comformity with the established standard of the road. Fills have a finished roadbed width of 34 ft., with side slopes of 1½ to 1 except on dredge fills which have slopes of 2 to 1. The tracks are raised on a sub-ballast of six inches of cinders, which is subsequently covered with six inches of gravel.

Center passing tracks with a capacity of 125 cars are the rule. These connect to the main tracks with No. 9 turnouts, using a No. 11 frog at the crotch.

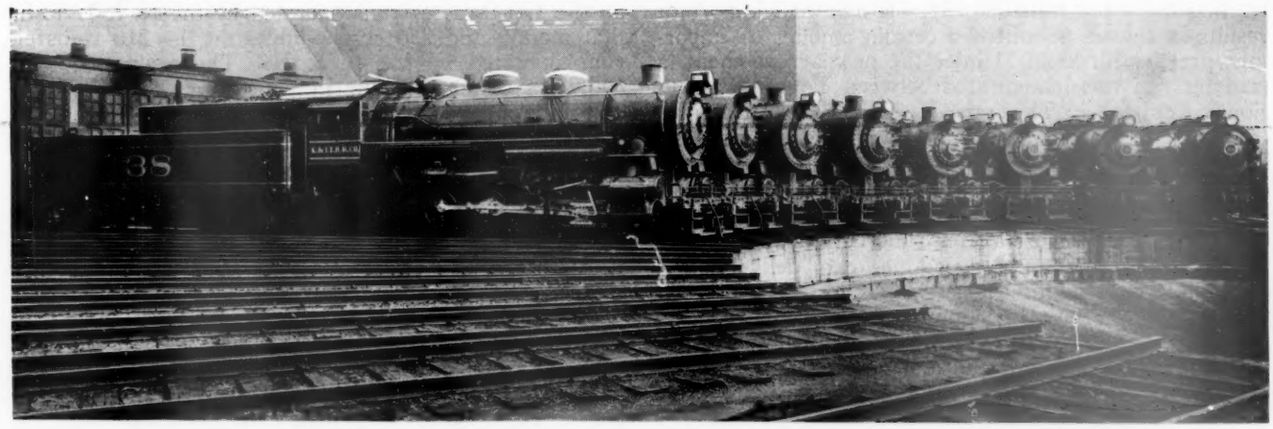
Automatic block signals have been provided as a part of the improvement program. On the earlier work, between Savanna and La Crosse, semaphore signals were installed, but between La Crosse and St. Paul color-light signals have been provided. These are two-aspect signals with independent advance or caution signals.

The project may now be said to have been completed, although there are still three short gaps in the second track, each of them due to the deferring of major bridge replacement projects. These are at the crossings of the St. Croix, Chippewa and Wisconsin rivers. These gaps are all short, the longest being that at the Wisconsin river crossing—about a mile. The ends of double track at these places are interlocked or have remote control switches at the far ends, the interlocking plants in two cases serving other purposes as well. Thus, the plant at Crawford, the north end of the single track across the Wisconsin river, also controls movements at the crossing of the Prairie du

(continued on page 1365)



Map of the Five-Mile Relocation South of Fountain City, Wis.



A Battery of Lima Switchers Used by the K. & I. T.

K. & I. Terminal Speeds Interchange

Arrangement with L. & N. provides for promptness and pre-classification

BY means of an unusual interchange arrangement between the Kentucky & Indiana Terminal and the Louisville & Nashville, at Louisville, Ky., it has been possible to reduce materially the time spent by transfer engines of each line in making deliveries to the rails of the other company. Under conditions that existed prior to the present agreement, it was not unusual for crew to use four hours or more in making deliveries, due to being held at the connection switch to meet the convenience of the receiving line, as well as a lack of interest on the part of the receiving line in the prompt return of the engine to the owner's rails. Under the present arrangement, the average time consumed has been reduced to 34 minutes. Large additional benefits have also been produced by a system of pre-classification between the two roads, which was worked out in connection with the new interchange arrangement.

The K. & I. T. is owned jointly by the Southern; the Chicago, Indianapolis & Louisville; and the Baltimore & Ohio. It operates 125 miles of tracks in the Louisville terminal district, including a double-track belt line and a double-track bridge across the Ohio river, from Louisville to New Albany, Ind. In addition to handling the interchange between the owner lines, interchange and switching service is also performed with the six other trunk lines serving Louisville.

The Interchange Arrangement

The interchange between the member lines takes place within the terminal, and, with one exception, all of the transfer runs are short and offer no difficulty in the way of prompt return of engines handling transfer runs. A different situation existed, however, in connection with the interchange between the K. & I. T. and the Louisville & Nashville. Here the transfer runs were required to traverse 5.5 miles of busy switching territory to make deliveries between Youngtown yard of the K. & I. T. and Oak Street yard of the L. & N. At that time, no direct deliveries were made between Youngtown yard and the second large yard of the L. & N. at South Louisville, a distance of nine miles, any South Louisville cars being put in the Oak Street run, and then switched out on arrival there and taken to South Louisville on another run. These transfer cuts sometimes experienced difficulties in getting from their own rails to those of the other line, and, as was the case in practically all terminals at that time, delays of hours' duration were not infrequent. There was also an almost continual correspondence over per diem reclaims, and endless telephone conversations back and forth. This lost motion became intolerable, and both lines, therefore, entered into an arrangement which has eliminated the difficulties most effectively.

Under the new arrangement, these transfer cuts become the responsibility of the receiving line as soon as they arrive at certain designated points, ready for acceptance by the receiving line. They do not actually have to be on the rails of the receiving line, but merely ready for delivery. From that time on, the receiving line is charged at the rate of $12 per engine-hour until the engine is turned back empty, or with a return cut. While the foreign engine is in its charge, the receiving line become responsibile for supervision, for grade-crossing or other accidents, for everything, in fact, but engine failures, which are assumed, of course, to be the fault of the line owning and maintaining the locomotives.

Monthly Settlement

The settlement at the rate of $12 per engine-hour is made each month. At first, there was usually a debit for one line and a credit for the other amounting to as much, in some cases, as $2,250 per month. However, as the local yardmen became accustomed to the new method, this debit was rapidly reduced, until the present time, when a debit or credit of more than 50 transfer engine-hours either way for one month is a most unusual occurrence.

As will be shown by specific figures, this plan has

worked out most satisfactorily. It also had important results in that it permitted a certain amount of important pre-classification. Under the new arrangement, a transfer run was inaugurated between Youngtown and South Louisville. Thus, the K. & I. T. now classifies cars for Oak Street, L. & N., and South Louisville, L. & N., instead of classifying them merely as L. & N. cars, and delivers to both yards instead of only to Oak Street as heretofore. This saves classification work for the L. & N. and also transfer runs between the yards.

In return, the L. & N. classifies cars delivered the K. & I. T., segregating the cars going to the C. I. & L., which form a large proportion of the interchange. This relieves Youngtown yard of considerable switching, since such cars are now pulled by the transfer engine directly into that portion of the yard assigned to C. I. & L. cars.

How It Works Out

The results of this arrangement have been excellent. A large trunk line, after sending men to Louisville to study this particular interchange, has put in the system at more than 10 interchange points along its lines. The table shows a normal day's operations under the new system. The operations for August, 1930, supply a further and more extensive illustration of what happens.

One Day's Interchange

Engine	Arrived	Cleared Connection	Load
	A.M.		
KI 28	12:15	12:18	53 cars
Ki 28	12:44	12:45	Light
KI 41	12:20	12:23	46 cars
KI 41	12:42	12:43	Light
KI 28	4:30	4:34	52 cars
KI 28	4:48	4:49	Light
LN 805	5:35	5:38	16 cars
LN 805	5:54	5:55	Light
LN 1112	9:00	9:02	13 cars
LN 1112	9:55	9:57	7 cars
LN 2151	9:40	9:45	44 cars
LN 2151	10:10	10:10	Light
	P.M.		
LN 2151	2:35	2:40	46 cars
LN 2151	3:39	3:40	Light
KI 28	3:05	3:07	24 cars
KI 28	3:36	3:37	Light
LN 2149	5:34	5:40	35 cars
LN 2149	6:35	6:36	6 cars
LN 2151	11:15	11:18	35 cars
LN 2151	11:49	11:50	3 cars
KI 40	11:22	11:24	12 cars
KI 40	11:54	11:56	Light

During that month, the L. & N. delivered 6,570 cars to the K. & I. T., in 216 transfer cuts, with an average of 30.4 cars per cut. L. & N. transfer engines engaged in this service were on K. & I. T. rails 127 hr. 21 min., or an average time of 35 min. for delivery of the cut and return of the engine.

The K. & I. T. delivered 5,823 cars to the L. & N., in 172 transfer cuts, with an average of 33.8 cars per cut. K. & I. T. locomotives engaged in this transfer service remained on L. & N. rails 94 hr. 47 min., or an average time of 33 min. for delivery of the cut and return of the engine.

The summary for the entire operation shows that 12,393 cars were interchanged, in 388 transfer cuts, averaging 31.9 cars per cut. The locomotives remained on foreign rails for 222 hr. 8 min., or an average time of 34 min. for delivery of the cut and return of the engine.

Thus, by the exercise of ingenuity, and, most of all, by co-operation, the two roads are saving approximately three and a half engine-hours on each of the transfer runs.

Even with the interchange during August which was relatively light, this meant a total of 602 engine-hours on the 172 transfer runs operated by the K. & I. T. in that month, and 756 engine-hours on the 216 transfer runs operated by the L. & N. There was also, of course, a material saving in time on all of the 12,393 cars interchanged between the two roads.

J. M. Kurn Discusses Subsidy Of Inland Waterways

J. M. KURN, president of the St. Louis-San Francisco, refuted the statement made by Patrick J. Hurley, secretary of war, to the effect that the assistance being rendered inland waterways by the United States government now is analogous to the assistance given the railroads in their pioneering days through land grants, in an address before a general meeting of civic clubs at Cape Girardeau, Mo., on December 18.

"I do not care to get into a public discussion with the secretary of war," Mr. Kurn said, "but when Secretary Hurley compares the present day subsidy of inland waterways with the land grants initially made in the case of a number of railroads he does not give the complete picture.

"Every railway that was given land grants was required in return to allow the government reduced rates and a decision of the supreme court of the United States more than fifty years ago held that government materials and troops must be carried at 50 per cent of the regular rates, while some roads had to carry these materials and troops for nothing.

"During the period from 1924 to 1928—and remember this was during peace times—the saving to the government from the land grant railways amounted to more than $4,000,000 annually. Even this was not the total saving to the government because other rail lines which had not received land grants initially, were forced to reduce rates for handling material, government mail, troops, etc., in order to meet the competition of the land grant carriers, so that the saving to the government during the period mentioned was considerably more than the $4,000,000 reported by the land grant carriers. Since these grants were made 50 years or so ago, it is quite obvious, I think, that the railroads, instead of receiving a subsidy, have in reality paid a handsome price for the land granted them and will, of course, continue to pay and pay.

"The government records also show that the value of land grant property was less than $1 an acre. Assuming this as a fair value, the saving of $4,000,000 a year which the government received during the period mentioned above, would have paid for the land more than twice over during the long period the land grants have been operated. Remember also that the roads have been paying taxes on the land at a very rapidly increasing rate for the support of the states and counties through which they operate and without which our rural school districts would be much more deficient, due to the fact that the railroads in many instances are the largest tax payers in communities through which they operate."

TWENTY-SIX WINTER CARNIVALS are already scheduled to come off in New England during January and February. The Boston & Maine, in its published list of 350 hotels catering to winter revelers, announces the dates of these carnivals, beginning January 16 at Newport, Vt., and extending to February 22, at Lancaster, N. H.

Ripley Urges Speed in Grouping

Defends railways against government favoritism of competitors at Security Owners' meeting

THE second monthly meeting of the New York Discussion Group recently organized by the National Association of Owners of Railroad and Public Utility Securities was held at the Hotel Commodore on December 18, with Professor William Z. Ripley of Harvard University as the principal speaker. There was an enthusiastic audience of more than 200 present, representing most of the more important financial institutions in New York, as well as substantial delegations from the railways, the press and others. The subject assigned for discussion was railroad consolidation, but some of the other pressing problems which the railroads are facing today, such as competition from other forms of transport and proposed methods of meeting it, received quite as much attention from the speakers as did the assigned subject.

The New York Discussion Group, organized under the chairmanship of J. W. Barriger of International Carriers, Ltd., an investment trust, held its first meeting in November with an attendance of something more than fifty persons and the greatly increased attendance at this time is taken as a favorable indication for the future of the association's new activity. Plans call for the formation of groups similar to the one in New York at various other centers of population throughout the country, the purpose being educational—to acquaint owners of the railways and public service corporations of the problems these industries are facing and suggested methods of solving them.

Too Much Wasteful Competition

"Hard times have proved that the railroads must effect every possible economy of operation," said Professor Ripley. "But with the strictest economy in 1930 they have been unable to earn anything like the fair return prescribed by law. It is apparent that means must be provided to make possible greater economies.

"I believe that the railroad presidents of the United States could perform no better service than by reaching a prompt agreement upon a consolidation policy. Thereafter, having the matter in their own hands, it could be put into effect. Such action would stabilize trunk line conditions, and be of great public importance, coming as an expression of confidence in the future of the industry at this discouraging time.

"Most of our railroads are operating upon a wastefully competitive rather than an economic basis. Every time that a car of freight is hauled over a longer route instead of a shorter one, there is an economic loss. Yet competitive systems haul thousands of cars merely because they are competitive. The loss from 'empty mileage' alone runs into imposing figures. While no one wishes to bring about consolidations that would lessen competition, it is possible to effect consolidations that will be both competitive and economic."

"It is evident," he continued, "that we have left the day behind us when the railroads represented the only great arteries of transportation, as they did at the time of their inception. In ten years the number and facilities of the railroad's competitors have grown enormously. Almost without exception these competitors enjoy some form of subsidy giving them advantage over the railroads, while the railroads have been penalized in the form of taxation, even to the extent of maintaining highways for certain competitors. I do not believe that we should coddle the railroads by granting them conditions of operation denied to competitors, but it is equally true that we should not favor such competitors by the grant of subsidy over the railroads.

"The remedies are not hard to find. In the case of water-ways, we should develop those which are geographically and economically necessary. For instance, the Great Lakes and Lower Mississippi River are essential highways. It would be uneconomic if we failed to utilize such natural riches. But it is a greater mistake to undertake a national policy that would make seaports out of inland towns by long and expensive construction enterprises. That is granting a subsidy to the railroads' competitors for which there can be no sound reason. It is plain, as well, that water-way rates, hours of labor and other factors of cost, should be regulated as in the case of the railroads.

"That stipulation especially applies to the motor lines. One of the first and urgent measures of relief for the railroads is adequate taxation, regulation of rates and hours of labor as concerns motor transport lines. Then, of course, they should be adequately taxed. If the motor transport lines can operate against the railroads upon these terms, by all means we should have them. There need be no turning back of the transportation cycle. We need do no more than prescribe conditions of equality for the factors concerned.

"It has been well said that good comes out of evil. Without the pressure of hard times we might have gone on for years in the old way, discussing consolidations, regulation, and what not, without doing anything about these great and grave questions. But the pinch has caused the practical men to face the issue anew and I believe that we may expect a real forward step in the near future. No one could be in a better position than the presidents of the eastern trunk lines to take this step. I have faith that we can depend upon their leadership."

Mulcting Taxpayers to Support Government Competition with Its Own Citizens

Professor Ripley emphasized that even on waterways for which there was some economic reason the government was not justified in running services competitive with the railways regardless of the expense of such service. The taxpayers money, he said, should not be devoted to providing a transportation service which could not pay its way. He told of the rapid development of motor truck transportation, especially in the southwest, where great fleets of trucks operate hundreds of miles from jobbing centers bringing back return loads for almost nothing. He said that raisin crops, which formerly moved by rail, were being transported to the Pacific coast by road and brought East via Panama Canal.

He emphasized the importance of calling to the at-

tention of the public the hidden costs of other forms of transport, i.e., the cost which they do not have to cover in their rates, but which are paid for by the taxpayers. Professor Ripley mentioned the analyses of railway problems made by F. J. Lisman in articles appearing in the *Railway Age* during the past few months and expressed himself as being largely in agreement with Mr. Lisman. He particularly favored store-door collection and delivery of freight and was of the opinion that if the railways would provide this service and secure for themselves the economies to be obtained by consolidation, they might hope to offer active competition to other forms of transportation. If this situation could be met, he predicted that the railways would return to a greater prosperity than they had ever enjoyed. Periods of crisis are always followed by better times, when the causes of the crisis have been courageously grappled with and overcome.

Waterway Enthusiasts Likened to Noisy Bullfrogs

F. J. Lisman discussed the address briefly. He advocated providing various classes of passenger service to accommodate persons of various incomes. He said also that the representatives in Washington did as they believed the people from their constituencies desired. He felt that a great deal of the enthusiasm over waterways was built up by professional administrative officers of associations whose members themselves were very little interested in the subject. Illustrating this point he told of a farmer who contracted with a restaurant to supply, over a relatively short period of time, a carload of frogs' legs. After several weeks the farmer came in with a couple of dozen of these comestibles and announced that the supply was exhausted. The few dozen frogs, he said, made so much noise that he thought there were many thousands of them. Mr. Lisman thought that the actual desire of the public for waterways was greatly exaggerated by reason of the extremely vociferous enthusiasm of relatively few advocates.

Bird M. Robinson, president of the American Short Line Railroad Association, told of the position of the Short Line on the consolidation question and how several of the larger railways had agreed to take in short lines when the consolidation projects were consummated. He said that the recapture clause had been a failure as far as the short lines were concerned and that it ought to be repealed.

Men Now Selling Apples Who Ought to Be Railroading

A militant statement in defense of the railways was made by Walter S. Case of Case, Pomeroy & Company. Mr. Case doubted the wisdom of relegating to competitive methods of transport the relatively small percentage which they are able to handle more efficiently than the railways. To concede this traffic to them, he maintained, would make the traffic handled by the railways more costly; and he doubted if the small gains to be made from utilizing waterways and highways even where economical would overcome the burden which the loss of this traffic would place on the railway system as a whole.

He said that the railways of this country are giving the best transport value in the world. Stimulated by curiosity or sentiment, the American public may want to see the restoration of waterway service, but, he predicted, "they will never want to pay the bill". There are men now selling apples on the streets, he added, who but for the injustice done to the railroads would now be engaged in providing a necessary and constructive service. The railways, if they are to continue to keep up-to-date and give the public the kind of service which it must have, must receive roughly one and one-fourth billion dollars net a year. He quoted President Hoover as estimating that in 1921 that unsatisfactory transport conditions were costing the industry of the country $2,000,000,000. If the present situation were not corrected, he avered, the loss would increase to $4,000,000,000. Plainly, he added, the railways must get their one and one-fourth billion each year. They could receive this money either by raising rates or by assistance from the taxpayers or by securing traffic to which they are entitled. This last method, he declared, was the cheapest and most sensible one for the public to favor.

Fairman Dick of Roosevelt & Son, who acted as toastmaster, said that the Interstate Commerce Commission ought to vote an increase in rates on specific traffic whenever it handed down a decision reducing some rail rate, or provided a differential for a barge line.

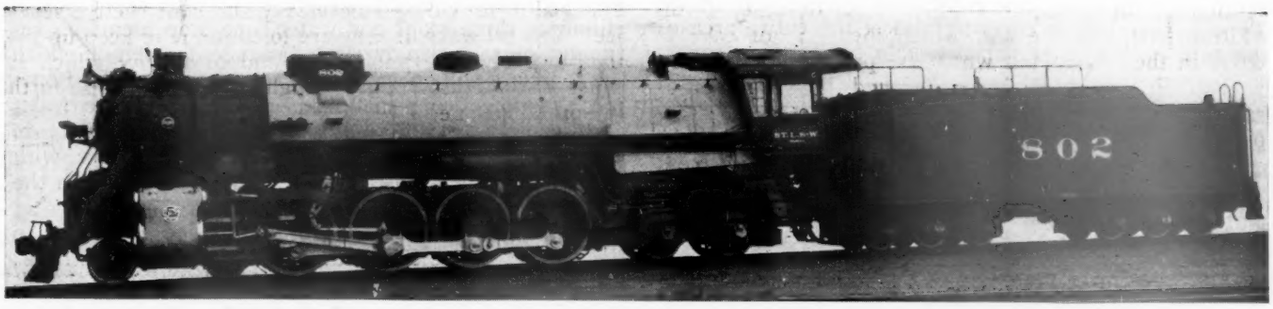
Protect the Integrity of the I.C.C.!

Professor Ripley in closing the discussion, called upon the members of the Security Owners Association to insist upon the integrity of the Interstate Commerce Commission. Mentioning the case of Commissioner Esch, he said that a blow was struck at the character of this body every time a nominee was rejected because of his attitude or decision in a specific case. The commission, he believed, ought to have the same freedom from political interference as the Supreme Court. He further favored the assignment of its administrative duties to a new administrative department in the government with a cabinet minister at its head, leaving the Commission exclusively to regulatory and judicial functions.

* * *

Electrification at 1,500 Volts on the Midi Railway of France

Investigation by G. I. Wright and A. T. Dice, Jr., of the Reading Company, prior to undertaking that road's own electrification program, revealed that the Midi's principal reason for electrification was to make itself independent of English coal supplies. Electric operation has been most satisfactory, and extensions are being made along lines similar to the present installation. The state-owned telephone lines were either removed from the railroad right of way or placed underground, the railroad sharing in this expense. The Midi generates its own current and, for reasons of reliability, uses mercury arc rectifiers in some of its substations. Operation of these is reported to have been wholly satisfactory.



Cotton Belt Freight Locomotive Built by Baldwin

Cotton Belt Replaces Consolidation Type Motive Power

Ten modern 4-8-4 type oil burning locomotives effect marked economies in the handling of miscellaneous freight on relatively fast schedules

DURING the month of September, the St. Louis Southwestern placed in service a series of ten Baldwin-built, 4-8-4 type, oil-burning, steam locomotives to replace 2-8-0 type locomotives in handling perishable-merchandise and other fast freight trains which comprise such a large proportion of Cotton Belt business. The new locomotives, known as the Class L-1, are used largely in main line movements between Pine Bluff, Ark., and Tyler, Tex. With a normal rated tractive force only 18 per cent greater than that of the Class K-1 locomotives replaced, they are handling approximately 30 per cent more tonnage at higher speeds. This is expected to result in a reduction of about 20 per cent in train mileage.

Operating Territory

The new locomotives were designed with a tractive force of 61,500 lb., as great as could be had with a ratio of adhesion close to 4, considering the loading permissible on existing bridges and other roadway structures. (Two steel bridges were replaced with new and heavier structures so as not to limit unduly this feature of the design.) As a portion of the territory over which the locomotives are operated is of undulating character with ruling grades of 1.2 per cent, 7,000 ft. long, it was necessary to provide large boiler capacity in order to negotiate these grades at the minimum desired speed of 15 m. p. h. The use of a four-wheel trailing truck was decided upon in order to carry the greater part of the increased boiler weight. In order to provide for operation over track having a maximum curvature of 16 deg., the Alco lateral motion device was used on the front pair of driving wheels, thus keeping the length of the rigid wheel base within necessary limits. It was also necessary to limit the total wheel base of locomotive and tender as it was not desired to replace existing 90-ft. turntables.

Silico-manganese steel, having a minimum ultimate strength of 70,000 lb. per sq. in., was furnished by the Lukens Steel Company for the boiler shell and outside firebox wrapper sheets, thus permitting the use of thinner sheets and a corresponding increase in size of boiler without exceeding the weight limitations. This steel compares with carbon steel of 55,000 lb. per sq. in. ultimate strength, as commonly used. The boiler was built for a working pressure of 250 lb. per sq. in., this pressure being decided upon as being the middle ground between lower, less efficient pressures and somewhat more efficient higher pressures, with the possibility of the increased efficiency being offset by increased boiler maintenance. The use of 250 lb. steam pressure instead of 200 lb. used on K-1 class improves economy and gives a smarter locomotive with better acceleration.

Boiler Equipment

The boiler is equipped with a Type E superheater which, it is estimated, permitted the following increases over what would have been possible with a Type A superheater: Tube and flue heating surface 6 per cent; total evaporating, 14.5 per cent; and sustained boiler horsepower 27.1 per cent. Favorable tests previously conducted by the St. Louis Southwestern on Class K-1 locomotives led to equipping the L-1 class with a feedwater heater and Thermic syphons. The Worthington Type E. superheater covering almost the entire area of older Type BL heater, indicated that approximately 15 per cent of the water used was recovered and that a fuel saving of 6 to 15 per cent was effected, depending on the load factor and the operating conditions. Three Nicholson Thermic syhpons were applied, two in the firebox and one in the combustion chamber, as previous tests are said to have indicated fuel savings up to 13 per cent on K-1 class, equipped with only two syphons in the firebox. The use of the American front end throttle permits the delivery of the steam to the cylinders by a short route and makes superheated steam available al-

most at the instant the throttle is opened. With the Type E superheater covering almost the entire area of the tube sheets, it is impracticable to install a super-

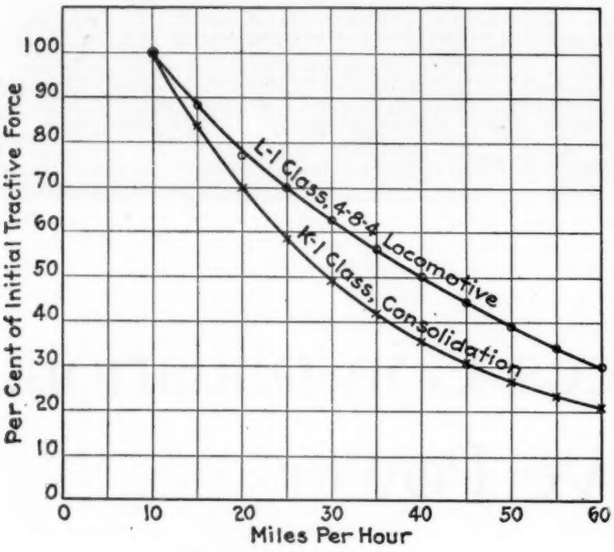


Chart Showing Marked Superiority of the New L-1 Locomotives in Per Cent of Initial Tractive Force Developed at Speeds Owing to the Provision of Ample Boiler Capacity

heater damper; therefore, to maintain some circulation through the superheater, superheated steam is used for more auxiliaries than would be the case if economy only were considered. The L-1 class uses superheated steam for the air compressors, hot and cold water pumps, dynamo, oil burner atomizer and blow-back, blower and whistle.

While the nominal rated tractive force of the L-1 class, 61,564 lb., is approximately 18 per cent greater than the K-1 class, it is contemplated that the L-1 class will handle approximately 30 per cent more tonnage at a higher speed and without excessive speed on the descending grades. Due to the capacity of the boiler, the initial starting effort does not drop off so rapidly at speed, this being shown in the chart. The maximum horsepower output is at least 50 per cent greater than that of the K-1 class, while at 15 m. p. h. it is practically 30 per cent greater.

A Decrease of 15 Per Cent in Unit Fuel Consumption Anticipated

It is expected that with a reasonably high load factor it will be possible to produce 1,000 g. t. m. with 7.42 gal. of fuel oil as against 8.73 gal. with the K-1 class. This means a decrease in unit fuel consumption of 15 per cent

The tender is built on a General Steel Castings Corporation's cast steel, water-bottom tender frame. Its capacity of 15,000 gal. of water and 5,000 gal. of fuel oil necessitated the use of six pairs of wheels. It is estimated that this capacity will permit operating a maximum distance of 84 miles without taking water and 330 miles without refueling. With water and fuel stations as now located, it is estimated that this tender capacity will eliminate three stops for water, one stop including refueling, on each trip over the 335-mile division on which the L-1 class will operate. The tender trucks are of one-piece cast steel construction, as are the locomotive trailer and leading trucks. Five of the engine trucks are equipped with Timken roller bearings and five with S.K.F. roller bearings, which is a new departure in the Cotton Belt territory.

Cylinders of 30-in. stroke were decided upon, due to the better tractive force curve than for a longer stroke; also on account of some expected decrease in maintenance because of lower piston speed. The Walschaert type valve gear is used, having a maximum travel of 7¾ in. and maximum cut-off of 87 per cent. The power reverse gear is of the Alco type.

In addition to using material of high tensile strength for the boiler, other items of weight reduction, made use of in order to increase the weight available for the boiler, included hollow-bored driving axles and main crank pins.

The main driving boxes are equipped with Grisco bearings, furnished by the Gill Railway Supply Company and Franklin adjustable wedges are used on all driving wheels.

The crossheads, and the driving and trailer wheel centers, are made of high tensile manganese steel, the driving and trailer wheels being fitted with heat-treated tires. The driving wheels, being 70 in. in diameter over tires with 62-in. centers, permitted satisfactory counterbalancing. The main wheels are cross-balanced. All of the revolving weights are balanced in each wheel, together with the desired amount of overbalance for reciprocating parts. The unbalanced reciprocating weight per 1,000 lb. total weight of the locomotive is 3.34 lb.; also the static plus dynamic augment loading at diameter speed will not exceed the corresponding total for similar locomotives now in service.

The Class L-1 locomotives are provided with copper-bearing steel for piping and jackets; Alemite lubrica-

One of the New Cotton Belt 4-8-4 Type Locomotives Just In From a Run

tion for 211 bearings and 400-lb., 750-deg. F. forged steel valves for superheated steam.

Various devices in the cab have been located so that the engineman can conveniently operate them; and the comfort of the crew has been well provided for by the installation of comfortable seats with arm rests, lockers and racks for supplies, tools and extra clothing; first aid kit; clear vision and storm windows, cab awnings and curtains; a radiator for heating the cab in cold weather and five adjustable ventilators for warm weather; also electric lights and ice-water containers.

Table Showing the Principal Weights, Dimensions and Proportions of the St. Louis Southwestern 4-8-4 Type Locomotives

Railroad	St. Louis Southwestern
Builder	Baldwin Locomotive Works
Type	4-8-4
Service	Freight
Cylinders, diameter and stroke	26 in. by 30 in.
Valve gear, type	Walschaert
Valves, piston type, diameter	14 in.
Maximum travel	7¾ in.
Weights in working order:	
On drivers	242,500 lb.
On front truck	82,000 lb.
On trailing truck	98,000 lb.
Total engine	422,500 lb.
Total tender	307,000 lb.
Total engine and tender	729,500 lb.
Wheel bases:	
Driving	18 ft. 9 in.
Rigid	12 ft. 2 in.
Total engine	45 ft. 0 in.
Total engine and tender	87 ft. 7 in.
Wheels, diameter outside tires:	
Driving	70 in.
Front truck	36 in.
Trailing truck	43 in.
Journals, diameter and length:	
Driving, main	12½ in. by 14 in.
Driving, front	11 in. by 15 in.
Driving, others	11 in. by 14 in.
Engine truck	Roller bearing
Trailing truck	9 in. by 14 in.
Boiler:	
Type	Conical
Steam pressure	250 lb.
Fuel, kind	Oil
Diameter, first ring, outside	86 in.
Firebox, length and width	132⅛ in. by 96¼ in.
Combustion chamber, length	54 in.
Tubes, number and diameter	52—2¼ in.
Flues, number and diameter	200—3½ in.
Length over tube sheets	20 ft.
Grate area	88.3 sq. ft.
Heating surfaces:	
Firebox	258 sq. ft.
Combustion chamber	104 sq. ft.
Thermic syphons	107 sq. ft.
Tubes and flues	4,259 sq. ft.
Total evaporative	4,728 sq. ft.
Superheating	2,060 sq. ft.
Combined evap. and superheating	6,788 sq. ft.
Tender:	
Style	Water-bottom, riveted and welded
Water capacity	15,000 gal.
Oil capacity	5,000 gal.
Rated maximum tractive force	61,500 lb.

Locomotives Present Attractive Appearance

The Cotton Belt management believes that a locomotive neat and attractive in appearance is a desirable asset; therefore, the design provides for a symmetrical stream line appearance with straight running boards, hand rails and throttle rigging, as free from miscellaneous appliances, piping and other details as possible, although due consideration has been given to accessibility for repairs. The boiler and cylinder jackets have been finished with Sherwin-Williams lacquer in an attractive dark Nile green color. The cylinders and valve chamber head casings are chromium plated and the main and side rods, as well as the valve gear, polished.

The specifications for the locomotive were prepared by the mechanical engineering department who not only co-operated unusually closely with the builder, the Baldwin Locomotive Works, in working out the final details of the design to suit the special service and requirements of the customer, but supervised construction at the builder's plant.

Noteworthy Double-Track Program Brought to a Close

(Continued from page 1358)

Chien division of the Chicago, Milwaukee, St. Paul & Pacific. At the crossing of the St. Croix river, which is at Prescott three miles south of St. Croix station, the plant serves also to handle the change-over from left-hand to right-hand operation, as the left-hand operation required on the paired track between St. Paul and St. Croix is continued south over the new double track to the north end of the St. Croix River bridge. This plant also controls the switches at the north end of the passing track at Prescott, the south switches being under remote control.

Because of the postponement of the bridge replacement at these three locations, all of which involved so-called navigable streams entailing movable spans, the bridge work done in connection with the improvement program embraced few important structures, although the number of waterways to be provided for is large in proportion to the mileage involved, by reason of the many streams that flow down the bluff sides or enter the Mississippi river through lateral valleys. These waterway openings are provided for by means of concrete pipe, concrete box culverts, concrete trestles and steel plate-girder spans, depending upon the size of waterway opening required. In some cases, the bridges were extended for second track by building a new structure of the same kind as that provided originally. However, south of Diamond Bluff where the structure for the first track was a 75-ft. concrete arch, the second track is carried on an 80-ft. girder span.

At the crossing of the Buffalo river, three 90-ft. girder spans were provided, these spans being of the through two-girder type for double track and having a thin reinforced concrete floor for a ballasted deck. This bridge was located at the crossing of a new channel which had been dredged some distance from the original channel so that it would be possible to provide a 125-car passing track between the bridge and the station at Alma.

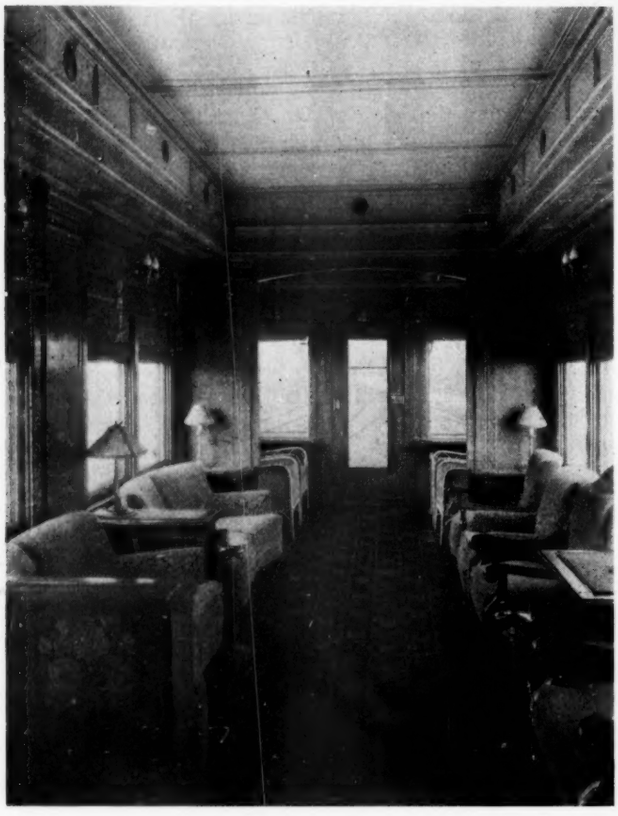
As indicated at the beginning of this article, the improvement of the La Crosse division has been carried out under a progressive program covering about 20 years. The work was undertaken in units from 7 to 18 miles in length, concentrating the activity during the earlier years largely on that part of the line between Savanna and La Crosse. Two projects were started in 1909, namely, between Savanna and Galena Jct., 26 miles, and between Onalaska, Wis., and Lytle, 7 miles, the latter section being completed the same year. By the end of 1912, 59 miles had been completed and 63 miles more were opened to traffic in 1913. During 1914 work was started on four sections aggregating 46 miles, but the onset of the World War resulted in a curtailment of operations so that only one unit of 16 miles was completed by 1915, while two other units totaling 15 miles were not ready for double-track operation until 1919. The project was then virtually abandoned until 1926 when work was completed on 15 miles started in 1913. However, at that time work was resumed in full force and 22 miles were completed in 1927, 30 miles in 1928 and the last section of 18 miles in 1929.

The work was planned by the engineering staff and the construction was accomplished through the joint co-operation of engineering and operating officers, resulting in a minimum of operating delays and in the application of economical construction practices.

Sun-Parlor Lounge Cars for the D., L. & W.

A SUN-PARLOR, buffet-lounge car, which is designed to provide the highest standard of comfort and travel luxury, has recently been placed in service on several Lackawanna trains operating between New York, Buffalo, N. Y., Cleveland, O., and Chicago. The entire rear end of the car is devoted to a sun room, a new feature in Pullman construction. This room is designed with wide windows which permit a maximum amount of light to enter and is equipped with reed chairs, console and periodical tables.

The main lounge room, just forward of the sun room, is furnished with deep-seated arm chairs and wide settees. These furnishings embody the Adam motif in their design with coloring in green, buff, black and gold. Extra large windows present the effect of a combination observation and club car. Adjacent to the main lounge room is a buffet which is equipped with a soda fountain with complete fountain service.

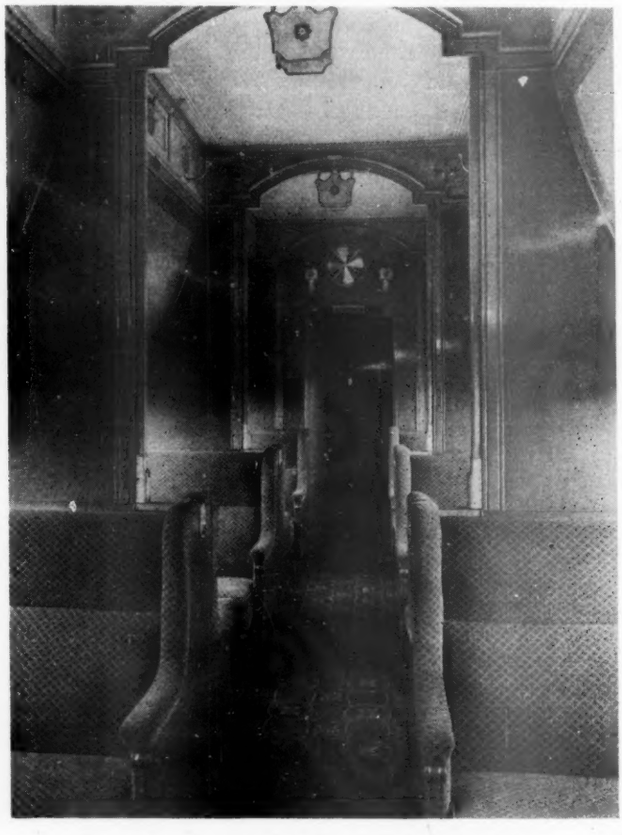


The Lounge and Sun Rooms

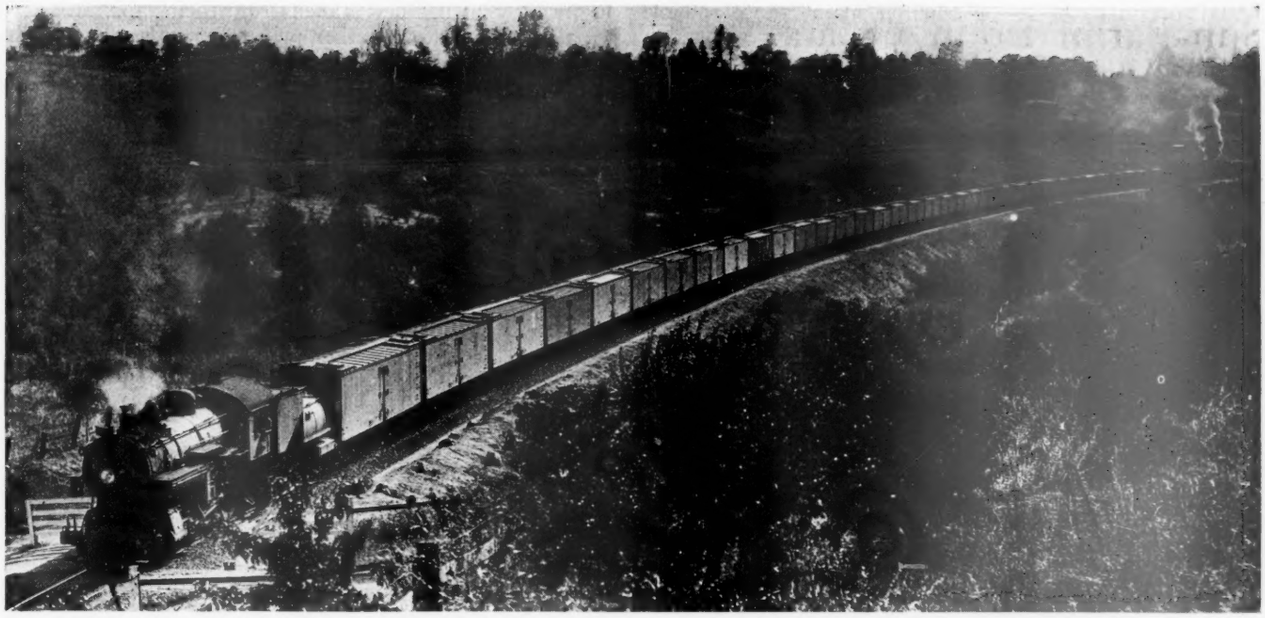
In the forward end of the car there are eight sections, each convertible into the customary lower and upper berths. Lavatories with modern fixtures and furnishings are provided for both men and women. The lights are of modern design, as are the interior furnishings of the car which are harmonious and in keeping with the three-tone color scheme of the car.

These cars now operate in the Lackawanna Limited, train No. 3, New York to Chicago; the Chicago Limited, train No. 5, New York to Chicago, and on the Whitelight Limited, train No. 9, New York to Buffalo. Eastward, these cars operate on the Chicago and New York Express, train No. 2, Chicago to New York; on the Lackawanna Limited, train No. 6, Buffalo to New York, and on the Whitelight Limited, train No. 14, Chicago to New York. Between New York and Buffalo the cars will operate via the Lackawanna and westward of Buffalo via the Nickel Plate.

The Forward End of the Lounge



The Forward End of the Car Contains Eight Pullman Sections



The Efficient Handling of Traffic by the Railroads Is a Factor in the Country's Development

Railroads Form Basic Unit of Country's Transportation*

Motor, air, water and rail systems should be co-ordinated to protect each other

By Paul Shoup

President, Southern Pacific

IN the boyhood days of many of us there was no duplication in transportation. It was about all that the reserve wealth of the country could do to afford any kind of transportation. Our population was more than three-fourths rural. Our citizens lived both on the farm, and in another sense off the farm. The wagon, the sled, and the wheelbarrow were common to the farm, but one did not duplicate the other. The few water-ways were of lessening, rather than of increasing consequence.

Co-ordination Lacking

The picture has now changed completely. Our population has largely moved into the cities and towns of some size, so that only 45 per cent can now be classified as rural. Our channels of transportation are by rail, by water, by highway, and even in the air. We have spent our wealth of today, and with a certain confidence have mortgaged the wealth of the future, to provide these various forms of transportation, that knowledge, and goods, and people shall be moved quickly from place to place. But this development has lacked co-ordination, and in many substantial respects has not been the subject of careful calculation as to the economic purpose to be served. In the greatest period of railroad building there were many thousands of miles built that should not have been. That cannot now be corrected, in any measurable degree, because of the intimate relationship between the growth of railways and of communities, and the unwillingness of any community to give up any service, even though it be very largely a duplicate of that which it otherwise has. Yet time and experience have reduced these duplications in service, if not in structure, and thereby in operating expenses, in a very considerable degree, and to some extent by the actual abandonment of little-used trackage.

Our Highway Transportation System

We are now engaged in the construction of highways throughout the United States on wholesale plans; larger than ever before, perhaps. Certainly that is true in the West. These highways in some instances cost as much per mile as railroads, and in a great many cases more per mile than the earlier railroads cost. Care needs to be exercised lest they be so placed that there will be duplication, not only of the railroads' functions as a transportation agency, but of one highway's service by another. A million miles of paved highway means more than a billion dollar tax bill each year.

* From an address at the Transportation Luncheon of the annual meeting of the Illinois Chamber of Commerce at Chicago on October 9

The original cost of construction, maintenance and reconstruction of these highways constitutes a great burden upon the purse of the public, in connection with which, sooner or later, there must be a reckoning as to their economic value, aside from the convenience and pleasure they afford the people. I have no quarrel with good highways. They are as essential as the railroads themselves. Within my time in the railway service, it cost as much to bring the products of the farms in the Willamette Valley in Oregon to the railroad stations as it did to take that produce to the eastern points of consumption. But with a first cost of from $5,000 to $40,000 per mile, or even more with bridges included, there should be care with respect to duplications.

Contest with Highway Carriers Unequal

As to their relation to the railroads as commercial agencies for transportation, the contest is unequal. The railroad out of private capital must build its own roadbed, provide its own structures thereon, and its own equipment to carry the commerce of the people. The highway involves no investment of capital, for either right-of-way or roadbed. The taxation, based on property values, of highway carriers is far less; the income tax of such carriers in California is less than one-half that taken from each dollar earned by the railroads. Freight is hauled long distances, in large units; passengers are transported both locally and transcontinentally on motor bus lines. The passenger earnings of the motor bus lines in California in 1929 were nearly one-half those of the steam lines, and our state is pretty well supplied with steam railroads, too. The freight earnings aggregated about $10,000,000, but this is only from motor truck companies filing tariffs as common carriers. So-called "contract carriers" that do not come under public regulations are estimated by the officers of the State Railroad Commission to carry many times the traffic of the certificated carriers.

The earnings of all of those motor truck carriers, it is safe to say, are not substantially less than those of the Southern Pacific in the State of California. Naturally, with the loss of one-third of their passenger revenue, and a very great part of their local freight traffic, the railroad companies have sought a co-ordination of activities in motor bus activities by highway and by rail. They have engaged quite extensively in motor bus activities, through which their experience in transportation and their recognized obligations to the public, and their established financial responsiblity, have given a service and a substance not had heretofore in many localities. And in that connection, may I suggest that the railroads give the one dependable service throughout all our country, all the year through.

Railways Give Better Highway Service

Entrance of the railroads into the motor bus field is giving, and will continue to give a better service to the public. There will be co-ordination so that both may be utilized, not alone, but in common. There are many motor bus companies established, giving a real and satisfactory public service that have no connection with any railroad, but I believe that in the larger way, long distance transportation especially, the railroad activities are destined to play a great and valuable service in the motor bus field. They should have this opportunity. The money their owners have spent in developing the country, and making it possible of occupation, has already been sacrificed in some degree by provision of free roadbeds, maintained at public expense in very considerable degree for competing carriers. It is reasonable that under public regulation as to service and fares, these railroads should have the right to maintain their traffic on the highways that has been taken from their rails, on terms equal to those offered other private enterprises.

What I have said with respect to passenger transportation on the highways applies likewise to freight transportation. More cautiously, perhaps, the railroads are looking into this field. The movement of freight by vehicles for hire on these highways is largely, as yet, unregulated. As stated, it is calculated by experts of the California State Railroad Commission, where because of good roads and climatic condition, such movement is very extensive, not more than 10 per cent is under public regulation.

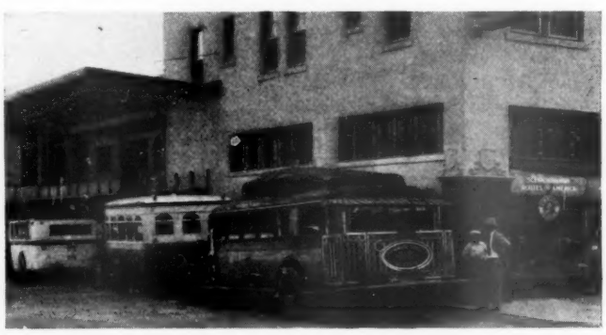
Experiments that have the ear marks of success are being conducted along the line of co-ordinated freight train and motor truck service; motor trucks gathering up the shipments, moving them to the railroad stations whence they are given fast transportation by train to central points where they are again distributed to warehouses, stores and in some instances to the smaller railroad stations. To the extent that this plan is found practicable, a duplication in service can be avoided.

The co-ordination between airplane and railway service has been so very widely advertised that I need not take up your time discussing it, except to say that it necessarily is more or less in an experimental state. The theory will not change, but the functions of the rail and the air service may be altered considerably. The unsatisfactory financial results of some of the airplane operations for passenger traffic will have in them the practical result of reducing the number of companies and the number of routes to those that find a response in the patronage given by the public.

Inland Waterways

There is a duplication of service between our rail systems and our inland waterways. Last year the Federal Government spent about $100,000,000 on good roads, cooperating with the states, which of necessity created additional competition for the railroads, though I hope with beneficent results with respect to the development of the country. It spent another $80,000,000 for water-way improvements, including flood control.

You, from the point of view of shippers, and my railroad associates here in the Mississippi Valley from the point of view of the railroads, can determine what ill, or what good has come out of these improvements for purposes of navigation, as against what the conditions would have been if there had been no undertakings in that direction. I am sure we all look with doubt and misgiving, however, upon the government itself going into the operation of boat lines on these water-ways. If a free channel is provided for steamboats, as against the railroads having to create and maintain their own roadbeds and rail, it would seem that the government had gone far enough in providing competition for the railroads, along with the competition that the Federal Gov-



The Motor Coach Has Taken Much Revenue From the Railroad

ernment and the local government are providing in highways; and that private enterprise might well be left to carry on the commercial activities on these inland waters, succeeding or failing according to the patronage received, which, after all, is the true measure of the value of any service to the public, under normal conditions.

Panama Canal Competition

It was not the intention that the construction of the Panama canal should adversely affect the railroads of the United States, but primarily that it should serve as a means of national defense, and secondarily, to promote the development of American industries, particularly of the Pacific states. The canal, including the charges for national defense, represents an investment of $387,000,000. On the total of that investment it makes a return of about three per cent, although it would not do so if its accounting system were that required of public utility corporations. We can say in a general way, however, that it has been as good an investment from the public viewpoint as had been expected.

In 1929, some 34,000,000 cargo tons passed through the canal, of which the intercoastal tonnage, i.e., between ports of the United States, amount to one-third. The lumber and oil shipments from the Pacific Coast could never have attained the proportions they have attained without the aid of the canal. The commerce of foreign

Traffic Through the Panama Canal Increases Each Year

nations through the canal—to a considerable extent in competition with American production—could never have attained the proportions that it has, except with the aid of the canal. As a matter of fact, 58 per cent of the commercial boats using the canal in 1929 were foreign-owned, 42 per cent of domestic ownership, largely engaged in traffic between domestic ports where foreign ships are not allowed to compete.

Let us consider the effect upon the transcontinental railroads of canal competition. Shipping companies using the canal are not subject to Interstate Commerce Commission jurisdiction. The railroads cannot own lines operating through the canal in competition with them. The rates are fixed by agreement among the steamship lines. They are subject to certain rules as to maximum rates, prescribed by the Shipping Board. At this time there are 24 commercial lines operating through the canal in domestic service. These are in intense competition with each other. As a result, traffic moves from points as far removed from the Atlantic seaboard or the Gulf as Chicago, by either Atlantic seaboard or Gulf ports, and then through the canal. This is not accomplished with much, if any profit to the canal carriers; but owing to the fact that there is no limitation upon the number of lines that can engage in the traffic, there are entirely too many of them, and they have to be content with lean pickings, or none at all. I cannot speak for the northern rail lines which are both heavy grain and lumber carriers, but for the central and southern transcontinental lines I can say that they would have been in a desperate way indeed if it had not been for the growth of eastbound perishable traffic that cannot be well handled and distributed by the canal service.

Air and Rail Services Are Being Co-ordinated

Of the 48 principal commodities moving westbound to the four principal ports on the Pacific Coast served by the Southern Pacific Lines, viz. Portland, San Francisco. Los Angeles and San Diego, the tonnage by the rail lines actually decreased, comparing 1929 (a year of exceptional business activity) with 1921, which in itself was a year of depression. Eastbound 24 principal commodities, except forest products, petroleum and perishable products, showed a decrease in 1929 compared with 1921 for these southern transcontinental lines. At the same time, the traffic westbound via the canal in these commodities had increased 20 per cent, or a total of 1,694,000 tons to the four ports named in this same period, and eastbound, via the canal, from these four ports an increase of over 200 per cent, or more than 500,000 tons.

The railroads concerned could not long have existed on the traffic they enjoyed in 1921, much less could they have lived upon the same volume of traffic in 1929. Only the development of perishable products saved some of these roads. If this competitive tonnage that has moved via the canal had moved via the railroads, these lines west of the Mississippi river to the Pacific coast, Oregon and south, would have received an additional annual gross revenue of $47,000,000 in 1929, in which every important carrier in the West would have shared.

It is axiomatic that when any facility is not used to its capacity, it can care for additional business at lesser cost per unit for the business as a whole until that capacity is reached. The western railroads are equipped on the whole to handle a vast volume of traffic beyond that which they now have. It might be necessary to add some additional sidings, perhaps some more cars, and enlarge some terminals; this increased traffic, in turn adding to their prosperity, would render any such problem as that which now confronts the grain growers and the railroads, with respect to rates, a much less disturbing one.

Of course, to suggest the transfer of this tonnage of some 2,400,000 tons out of the entire domestic tonnage of 11,000,000 tons through the canal from steamships to

railroads is out of the question, but without substantial profit to itself the canal lines are now engaged in a very intense competition with each other and with the railroads; the railroads are not only handicapped but because of conditions beyond their control, are out of the running. They are not permitted as yet to meet these rates save at too great a sacrifice. It is essential, indeed it is vital, that they be in better position to retain part of this traffic and enjoy a fair share of its growth. The difficulty the canal lines face is one of unlimited competition, where with relatively small capital and no great responsibility to the world at large, a line may be started and create a disturbance in rates. As a matter of fact, there should be no additional lines started in intercoastal service without first obtaining a certificate of public convenience and necessity, just as the railroads have to do upon the land.

I have nothing to say in the way of criticism of the Panama Canal steamship lines engaged in domestic service, but I hope they find a way of making their own business more profitable, and by indirection help the railroads. At the same time the railroads competing with them should have opportunity, under the regulation of the commission, to compete with these canal lines. The Interstate Commerce Commission can give the railroads this opportunity by granting what is known as "Fourth Section Relief," i.e. permit the railroads to make lower rates to Pacific Coast ports for example, than rates to the intermediate points where water competition is not a factor. There is no loss to these intermediate points in so doing, for it is not a question of the volume moving to these terminal points on the Pacific Coast but a question of *how* it moves, whether via the canal or via rail. In the latter instance, as I shall point out, these interior communities are greatly benefited.

If one-third of this tonnage that now moves via the canal moved all rail, the western railroads would have say $15,000,000 or $16,000,000 additional revenues, which would be a great help. The interior of the United States is vitally interested in this situation. Quite obviously the industries of Illinois wish the same rates to the growing population of the Pacific Coast, around the great terminal ports, that are enjoyed through the canal by other sections nearer, or adjoining coast ports. And there is no reason why a great manufacturing city at a coast port (Atlantic of Gulf) should not have substantially the same rates by rail to the Pacific Coast ports as exist via the canal, provided they are both made upon an economic basis. It may be that there should be some differential against the rail routes, that rail rates should be somewhat higher, but in view of the good service given by the canal, that differential cannot be great, or it will drive the business from the railroads.

Railroads Distributors of Money

The railroads are distributors of money, as well as carriers of commerce. In their dealings with the public, they are necessarily substantially on a cash basis. In 1929 as a whole they spent $853,000,000 in new capital to take care of the commerce of the United States—more than twice the entire cost of the Panama canal. Since Federal control, in 1920, they have spent seven and one-half billions of dollars in new money to add to their facilities. They have not received an adequate return thereon. They have not yet, in any year, received the reasonable return nominated by the commission of 5¾ per cent upon the value of their property. During the first six months of this year, the earnings are at an annual rate of less than 3 2/3 per cent.

They have been cautious with respect to dividends, and have put back into the property, therefore, a large part of their earnings. Many have passed through receiverships, their owners losing their money in a public service. They have cut their costs in every direction in the last 10 years through economic and experienced management. Trainloads have been built up, being in our own case 50 per cent greater than 15 years ago. Heavier locomotives have been put into service, improved devices utilized to get more energy out of fuel, roadbeds created of longer life in proportion to the wear and safety promoted. They are called upon to spend great sums of money in separation of grades, in providing terminal facilities, freight and passenger, that will insure a swifter and better service; and in meeting public obligations that are not revenue producing.

The railroads of the United States spend each year as much as they take in, in operating expenses, taxes, interest that they have to pay, and earnings that they put back into the property—plus the new money they borrow—part of that huge sum of $800,000,000 to which I have referred. After they have paid their operating expenses and taxes alone, on the whole they have a little less than 20 cents left out of each dollar taken in. Out of this 20 cents must come interest on what they owe, improvements for the property for which they do not secure money otherwise, and dividends to the stockholders. Figuring all sources of income, the railroad with which I am associated spent on the property last year, in operating expenses, taxes and improvements, 85 cents out of each dollar taken in, and that probably represents the condition of the railroads through the country. In addition, we borrowed, and the other railroads borrowed, either from our stockholders or the public, the larger part of the $800,000,000 of new money that went into improvements.

With Fourth Section Relief Railroads Would Spend More

If the Fourth Section Relief referred to were granted the railroads, and particularly the western railroads, it is probable that operating expenses and taxes and improvements would take more than 85 cents out of each additional dollar secured. How is this 85 cents spent? All along the line. If the western railroads secured $40,000,000 additional revenue, there would be at least $30,000,000 of it spent in the maintenance and operation of the property, and paying taxes thereon. This money is distributed in every town that the railroad serves—in every community. It helps to maintain the merchant, manufacturer, the consuming power that you yourselves depend upon, it provides local markets for producers of agricultural and horticulural products. Additional revenue to these western railroads means a great deal indeed to those people who live along the lines between Chicago and the Pacific coast. We employ about seven men to each mile of railroad, and they are pretty well distributed, so that every community receives benefit from our payroll. There is substantially a section man for every mile.

Trainmen, equipment men, maintenance of way men, etc., are employed in great number. Fuel is purchased locally, and water is either purchased or developed locally—both large items in the operation of a railroad. Ballast for additions and betterments and renewals is bought along the lines of the railroads. Ties to the extent of more than three million a year on our railroad alone, are bought along our lines to replace those worn out. The manufacturers of rail, equipment, bridges and their accessories find one of their greatest markets in the railroads, for many thousands of miles have to be renewed each year, and many thousands of units of equipment replaced. Probably, on a weighted average, every railroad in the United States is rebuilt every twenty

years, which is to say, if the railroads of the United States are worth $30,000,000,000 it means the annual replacement in cost of $1,500,000,000. Not only would I convey to you the thought that the service of the country is wrapped up in the welfare of the railroads, in the sense of maintaining them as an efficient major agency of transportation, but that the money they take in is largely spent along their lines in such way as to be productive of a more uniform prosperity among the people than almost any other great expenditure. And I would convey to you the thought that the Federal Government, in giving aid to inland water-ways and the Panama canal, and to state highways, producing competition without capital investment for roadbeds and right-of-ways for the railways, should exercise a wise discrimination in the interests of the people of this country, lest it impair their greatest agency for transportation, and the greatest and most wide distributor of money among our people. If investors feel that the railroads are not getting a square deal they will be shy about adding $700,000,000 or $800,000,000 a year to the railroad investment. If the railroads do not receive sufficient earnings, they cannot keep up with the constant demands made upon them for better, faster service. And it does not take a great deal to upset the applecart. When out of each dollar taken in, only 20 cents remains to take care of interest, improvements to the property that cannot be otherwise capitalized, and dividends, there is no great margin from which to substract the inroads of subsidized competition. Not in all of this am I painting a picture of destructiveness for inland waterways, the Panama canal, or the highways.

The Panama canal is an established fact and also a national necessity. Those other improvements are to be created only after considered judgment finds them in each instance a desirable expenditure in the public interest. But the public policy with respect to their operation for commercial purposes is an entirely different question and involves a wise consideration from day to day and year to year, if that course is to be adopted that is best for the interests of the nation.

Taxes Increasing at Rapid Rate

Taxes are now increasing at the rate of a billion dollars every two years. They have again reached the total of $13,000,000,000 per annum, or between one-seventh and one-eighth of our total national income. There are many duplications involved in the activities resulting from these taxes. Help to avoid this duplication of burdens lies largely in simplification. Thomas Jefferson once said that those people are best governed who are least governed, meaning, no doubt, those who require, because of their intelligence and character, the least government. How far we depart from that ideal may be noted when it is stated that in 1915 only one-fourteenth of our national income went to taxes. We have now almost doubled the proportion, and if I am informed correctly, trouble has always overtaken that nation which had to devote more than one-fifth of its national revenue to governmental purposes.

Pennsylvania Builds 65-Ft. Gondola Cars

THE Pennsylvania has recently completed the first of 1,500 mill-type gondola cars which it is building in its own shops. These cars, which have been designated by the railroad as class G-26, have a length over the couplers of 70 ft. 3 in. and over the striking castings of 67 ft. 9 in. The inside body length is 65 ft. 6 in. and the inside body height is 3 ft. 6 in. The inside width is 7 ft. 7½ in. The cars are equipped with drop ends with a clear width in the open position of 7 ft. They were designed especially for the transportation of long structural shapes such as steel bars, sheets, pipes and rails and are built to carry a normal load of 140,000 lb. with a load limit of 148,000 lb. The light weight is 62,000 lb. and the cubic capacity, 1,738 cu. ft.

The new cars have standard 12-in. A. R. A. center sills with a top cover plate measuring 20 in. by ½ in. The side girder is of the fish-belly type composed of a 6⅛-in. by 3⅝-in. by ⅞-in. top Z bar, ¼-in. side sheets and two, 5-in. by 1-in. side-sill bars. This girder is braced by side stakes. The bolster and crossbearer diaphragms are made of cast steel.

The bolster construction is made up of cast-steel diaphragms with top and bottom tie plates. Two crossbearers on each side of the center of the car are made of steel castings extending across the car body from each side. The floor is formed of ⅜-in. steel plates supported by 6-in. I-beams.

The drop ends are of the corrugated type. The corner stake, push-pole pocket and end sill have been designed in one piece, and are of cast steel. This construction should eliminate any tendency of the ends of the car to get out of alinement.

The two trucks are of the four-wheel type with a wheel base of 5 ft. 8 in. They have 6-in. by 11-in. journals, cast-steel side frames with integral journal boxes, a cast-steel bolster and rolled steel wheels.

Pennsylvania Gondola Car Designed to Carry Long Structural Steel Shapes

A Southern Pacific Fire Train In Action

S. P. Fire Department Operates in Seven States

Extensive facilities cut loss per mile to one-half of average for all steam railroads

THE Southern Pacific System's fire prevention and control problem possesses many unusual features not encountered by the average railway fire-fighting organization because of the magnitude of the system and the widely varying nature of the territory traversed, which embraces highly developed communities, small villages, desert country, mountain ranges, dense forests and much unsettled area. The company's fire department operates in seven states and in spite of the difficulties which exist by reason of the characteristics of the territory, the Southern Pacific's fire loss per mile was about 50 per cent of the average loss of all the steam railroads in the United States. This record is attained by constantly exercising prevention methods, by an efficient patrol system and by adequate fire-fighting equipment which includes four fire trains, 50 cars equipped with water tanks and a fire tug in addition to the apparatus at the shops on 12 divisions and the water supply systems at large terminals. Besides, 93 locomotives are equipped with fire-fighting apparatus, consisting of an inspirator and 100 ft. of 2-in. rubber-lined fire hose.

The Sierra Nevada, Cascade and Tillamook mountains are susceptible to many fires and as a result the Southern Pacific has developed an elaborate system for combating fires in these territories. During the summer months there is little if any, rainfall, and the underbrush becomes like tinder, thereby presenting a hazard that is extremely acute, and which requires constant vigilance. In the state of California alone, despite the most careful precautions, there are about 2,000 forest fires each year, which burn over more than 500,000 acres, causing timber destruction and property damage amounting to over a million dollars.

To minimize these forest fires, the company cooperates with the forest service by posting signs in all trains, requesting patrons and employees to assist in protecting and preserving the forests by refraining from throwing burning cigars, cigarettes or matches from trains. In addition, it has equipped all locomotives operating through territory subject to fire hazard with devices for preventing the escape of sparks from the smokestacks. Fire guards, six feet wide, are plowed at the edge of the right of way, and the remainder of the right of way is cleared of dry grass or brush by burning at the approach of summer. On the mountain grades where heavy and sustained application of brakes is necessary, sparks are at times created by the friction. Although these friction sparks seldom cause any damage, they are closely watched. During the summer, when forest and field are dry, and undergrowth furnishes an extreme fire risk, precautions are intensified.

A motor car, equipped with emergency apparatus

follows closely behind each train in the forest country. This car is operated by one man, who carries on his back a pack tank filled with water. He carefully inspects the right of way, and any small flame that might have been caused by the passing train, or by burning articles, thrown therefrom, is immediately extinguished.

Snow Sheds A Hazard

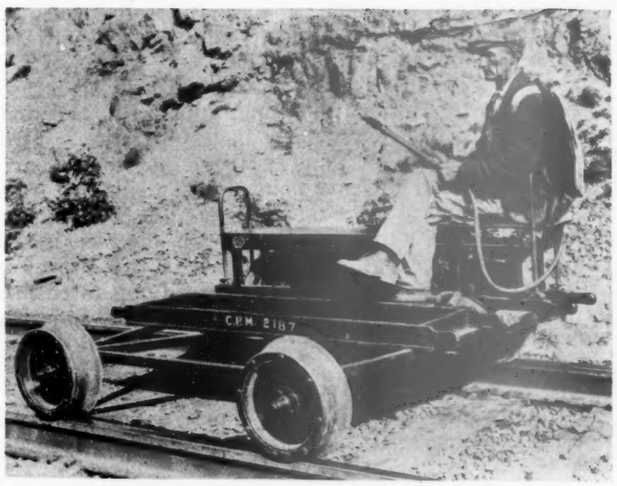
In the Sierra Nevada Mountains there are about 18 miles of snow sheds, which, being constructed of wood, constitute one of the company's greatest fire hazards during the dry summer months. To protect these sheds, specially designed fire fighting equipment is maintained. Four fire trains are kept in readiness for instant action, one at Truckee, Cal., another at Norden, a third at Cisco and a fourth at Emigrant Gap. The locomotives of these trains are equipped with duplex pumps with a capacity of 300 gallons per minute. To each locomotive is attached two water cars, with a capacity of 12,500 gallons each. The trains are also equipped with 1,000 ft. of 2½ in. standard fire hose, 12 brush hooks, 12 axes, 6 shovels, 2 cross-cut saws, 6 lanterns, 1 portable telephone, 2 chemical extinguishers and 2 fire ladders.

These trains are kept constantly under steam during the summer months, and require only two to five minutes to get under way. The engines are equipped with sirens, and all other traffic is side-tracked to make way for the fire trains. With four trains on the mountains, it is possible to send trains to a fire from two different directions and thereby fight the flames from both ends of the fire. It is the proud record of the fire trains' crews that they have never yet had to back away from a fire. The fire losses in the sheds have been measured by the time required to get the fire trains to the scene.

In addition to these specially equipped trains in the snow shed territory, 93 locomotives in regular train service have been equipped with fire-fighting apparatus, consisting of an inspirator and 100 ft. of 2-in. rubber-lined hose, so that each engine becomes a fire-fighting unit. This allows every train in the snow shed territory to combat any fire which it may encounter, particularly in an incipient stage.

In the clearing of the right of way, section men use every precaution. Some of them are equipped with pack tanks with which to keep clearing fires from getting out of bounds, and to check any forest, field and bridge fires encountered. The pack is also used to wet the sacks with which they fight fire.

The Fire Train Can Fight Fires a Considerable Distance From the Track



A Watchman Follows Trains in Summer

At Red Mountain, the highest peak in the Sierra Nevada, a lookout is located for the protection of snow sheds and forests. In the clear air of this altitude, a pair of good eyes and constant watchfulness are all that is necessary during normal daylight conditions, but at night, or at any time when a clear view of the surrounding country is impossible, high-power binoculars and a transit telescope mounted on a fixed pier in the center of a bay window gives vertical and horizontal angle and location on an etched map. So closely has the etched map been scaled that it is possible for the indicator attached to the telescope to reveal, within an extremely small range, the location of a fire, and to determine whether it is in a snow shed or in the forest, and, if in the forest, on which side of the shed it is located. The lookout is connected with Norden station by telephone, over which the watchman reports every half hour, day and night.

Track Patrols Aid Lookouts

In addition to the lookout, trackmen patrol the sheds every hour. The sheds are equipped with an electric fire alarm system, ringing into a central office, so that, between the lookout, the patrol and the electric alarms, a fire never gains much headway before it is discovered.

To further insure against fire in the wooded country, the company has provided 50 water tank cars on steel underframes, especially equipped for emergency use. These cars are distributed at the most strategic locations on spur tracks. The cars are tested once a week to insure that they are always in good working condition. Piping is arranged on the cars so that a locomotive can furnish steam for the operation of a Worthington Duplex pump which has a capacity of 300 gal. per min. Each car is equipped with 500 ft. or more of 2½ in. standard fire hose, and all tools necessary to make complete fire fighting equipment.

San Francisco Bay Property Protected

Second in importance to the forests and snow sheds, is the fire hazard of the company's properties around San Francisco bay, the train terminals at Oakland Pier and Alameda Mole, freight and passenger slips, West Oakland shops and the company's ferryboats. All of these properties can be reached by water, and a fire tug, the Ajax, has been provided for their protection and is kept on a 24-hr. service. The boat is 103 ft. in length, has 750 developed horsepower, and a speed of 10 to 11 knots. It is equipped with pumps that will

deliver 2,400 gal. of water per min. at 150-lb. pressure. In case of mishap to ferryboats, the Ajax is always available to tow them to safety.

The shop on all of the company's 12 divisions are fully equipped with fire-fighting apparatus, and the employees are drilled regularly in its operation. Fire companies, ranging in number from one to six, are organized at each division point. Fire drills are held once a week, and to make them the more effective, these drills are always surprise calls, so that the men never know whether an alarm calls them to a real fire or a drill. At large shop terminals, electrically operated fire alarm systems, connected with central stations, and also with the city fire department, have been installed.

Water Supply is Large

At many locations the water supply for fire protection has been increased, the most important points being Los Angeles and West Oakland, where large values are represented in building, store stock, lumber and ties. Each new water system has been provided with two 1,500-gal. per min. pumps, one steam driven, the other electrically operated, located in concrete buildings and used for fire protection only. These pumps take water from a reservoir of 250,000 gal. capacity and discharge it into a network of pipe lines ranging from 4 in. to 12 in. in size. Fire hydrants have been located at all important points, where company forces, as well as the city fire department, may attach hose for fire protection.

These new pumps are automatic in operation. Opening a hydrant and allowing the water pressure on the pipe lines to drop 10 to 20 lb. will cause one of the large 1,500-gal. per min. pumps to go to work. The new water system at Los Angeles cost $83,000, and at West Oakland the cost was $75,000. At Sacramento the fire pump equipment has been reinforced with one 1,500-gal. per min. electrically driven pump. The water is taken from two 30-in. city water pipes.

The water supply at these large terminals is practically inexhaustible. The reservoir at Los Angeles is supplied with water from wells and also with city water. At West Oakland the reservoir is replenished with water from the bay. At Sacramento, water is taken from the Sacramento and American rivers.

In addition to the water protection afforded by pumps, water barrels and buckets have been placed at every point where there is the remotest possibility of fire occurring. Fire extinguishers, ranging in capacity from 2½ to 40 gal. have been placed throughout buildings and yards, in outfit and baggage cars and in all other places where it is deemed expedient to place such protection. Sand barrels and scoops or shovels are placed near oil columns, tracks where locomotives stand, and through roundhouses and other places where oil might create a fire hazard.

Along the line, in territories where long and high trestles are in use, water has been piped onto the trestles and hose provided to reduce the fire risk. Locomotives serving these districts are equipped with water sprinklers, which the engineman opens before going onto the trestle. By this means the deck of the trestle is wet down, and the danger of fire from hot bits of metal from brake shoes or sparks from the firebox is reduced to a minimum.

As a result of these fire prevention measures, the system has been able to materially reduce its fire losses. The effectiveness of adequate prevention is further emphasized by the fact that while the losses have shown a decrease, the value of the properties has increased.

Standard Size Desk for Fanfold Machine

REMINGTON RAND Business Service, Inc., has developed a "Fanfold desk" to accommodate Fanfold operations in regular desk space, avoiding the sacrifice of uniformity in the appearance of offices to accommodate Fanfold machine stands with their bulky form baskets. The new desk is made of high-grade steel, amply reinforced. Drawers, sliding shelves, form magazine—all are suspended in such a manner as to secure ease and convenience for the use for which the desk was designed.

The desk stands 25 in. in height. The top, of heavy battleship linoleum, bronze bound, measures 42 in. in length by 32 in. in depth. The magazine may be withdrawn from its protective place under, and completely within, the limits of the desk top, and in actual use will require but a few inches more of floor space than the desk does when inactive. This magazine houses an ample supply of forms, and provides a place for large

Fanfold Machine and Desk

carbon reserve. A drawer to the right of the operator is provided with an ample compartment for small supplies and personal belongings. A sliding shelf adds 147 sq. in. of working top when needed. The desk is finished in standard olive green, with hardware of statuary bronze.

In its railway applications the Fanfold is used principally in the freight stations for making out waybills, inbound and outbound, or prepaid and collect, utilizing the extra carbon carrier provided by the manufacturers for the different types of forms necessary in this kind of work. In a recent test on railway applications at Philadelphia, one operator attained a production of 700 waybills in six hours. The machine is also used in purchasing departments for the making up of requisitions, for typing passes and in the auditor's office for correction sheets in interline abstracting.

THE GRAND TRUNK WESTERN on November 25 launched the City of Milwaukee, a Lake Michigan car ferry. This vessel, which has a length of 360 ft. and a capacity for 28 loaded freight cars, will ply between Milwaukee, Wis., and Grand Haven, Mich.

Motor Transport Hearings Continued at New York

THE Interstate Commerce Commission continued its investigation in Docket 23,400 Co-ordination of Motor Transportation, with a hearing at New York, which began on December 18. Presiding at the hearing was Examiner Leo J. Flynn, who was assisted in the questioning of witnesses by Examiner Albert T. Stephan.

The Reading was the first railway to present its case. The first witness was E. D. Hilleary, vice president in charge of freight traffic. The densely-populated territory which the Reading serves, with its closely-situated state lines, has provided an ideal situation for the development of motor transport competition, both regulated and unregulated, said Mr. Hilleary. Motor trucks are carrying miscellaneous freight in large volume between points which the Reading offers over-night service. A substantial part of Mr. Hilleary's testimony was devoted to the competition of motor trucks for anthracite coal traffic moving out of mines in Reading territory.

Turning to the steps which the Reading has taken to meet the situation arising from the development of motor transportation, Mr. Hilleary described the organization of the Reading Transportation Company, a subsidiary which operates both motor coaches and motor trucks. The truck operation, he said, is still experimental. Mr. Hilleary described the inequalities existing between the railways and their competitors with respect to taxes, rate fixing, and service. In conclusion, he said that there are three needs if railway and highway transportation are to be co-ordinated. These are uniform regulation, equalization of taxes, and regulation of the service and other operating features of the motor carriers.

Expect to Expand Service

Under examination by the commission, Mr. Hilleary said that a railway should operate motor vehicles in competition with its train service, as a means of protection. Extensive experiments are necessary before competition can be properly met, he continued. He did not favor reduced rates to meet specific competitive situations, since such rate reductions are always widespread in their effect. The railways must engage in motor coach and truck operation in order to meet the motor coach and truck competition, Mr. Hilleary said. He contended that much of the unwarranted motor transport activity—such as the transportation of coal—is a result of the lack of adequate taxation of motor vehicles. The Reading, he continued, expects to use motor trucks extensively and to establish store-door delivery and collection service, after certain essential readjustments have been made. The reason given by Mr. Hilleary as to why the Reading has not gone into truck operation as extensively as it has gone into motor coach operation, was that truck operating conditions are chaotic, and the Reading wants to know definitely what it can expect to accomplish through the operation of motor trucks before it takes such a step. The examiner asked if any car-loading companies are operating over the Reading, to which Mr. Hilleary replied that several do. He said that the Reading has no interest in any forwarding company.

The next witness was E. D. Osterhout, passenger traffic manager of the Reading, who described in detail the developments of recent years in connection with the passenger traffic of the Reading. The operations of the Reading Transportation Company have been profitable, he said, on account of the savings in train operating expenses which have resulted from the establishment of substitute motor coach service. The Reading, said Mr. Osterhout, has furnished modern co-ordinated service which has proved satisfactory to the public. The aggregate of passenger train miles and motor coach miles operated by the Reading has remained fairly constant since 1921.

Saving $400,000 Annually

The Reading Transportation Company, said Mr. Osterhout, is operating 10 motor coach lines in substitution for train service, 5 suburban feeder lines and 9 intercity lines. The establishment of main-line motor coach service for the railway has tended, he continued, to keep out unwarranted additional lines, and the Reading is saving $400,000 annually as a result of its motor coach substitutions for train service.

The opening of the bridge across the Delaware river between Philadelphia, Pa., and Camden, N. J., resulted in a tremendous increase in motor coach operation between Philadelphia and the seashore. Motor coaches, said Mr. Osterhout, are carrying more passengers, excluding commuters, than are trains between these points. Motor coach operators have taken full advantage of the proximity of state lines in establishing unregulated interstate service between Philadelphia and New York. There are 73 scheduled motor coach trips daily between these two points, while there are 70 daily trains scheduled.

Mr. Osterhout described the extensive efforts to improve train service which the Reading has made, including better equipment, more frequent schedules, and reduced fares. These efforts, he said, have not been successful.

The Reading is anxious for regulation of the interstate motor vehicle lines, said Mr. Osterhout, but it does not believe that this will be a panacea for the railroad passenger problem. The private automobile is the real factor. Regulation would not reduce the number of motor coach lines, but might strengthen those now in operation, which cover virtually every improved highway. Economy, he said, is the sole attraction of the motor coach, and this economy is a result of the small amount which the motor coach pays for the roadway which it uses. The railways can readily handle all the traffic now moving by railway and motor coach, said Mr. Osterhout. The average number of passengers per train on the Reading during 1929 was 50.2, while the average number of passengers per car was 14.7.

Well-Pleased With Results

Mr. Osterhout described the arrangement existing between the Reading and the Reading Transportation Company, pointing out that the expense of certain services performed for the transportation company is assumed by the railway. In return, the transportation company operates unprofitable motor coach service in order to enable the railway to take off certain trains and to save the expense of their operation. The Reading has been well pleased with the results of its motor coach service, and Mr. Osterhout stated that it was believed that the train service could not have been reduced as it has been, without the motor coach substitutions.

W. K. Bean, assistant comptroller of the Reading, was the next witness. He described the accounting practices of the transportation company, and stated that the employees and operating facilities of the transportation company are maintained and accounted for entirely

separate from those of the railway. In connection with the joint motor coach service, operated by the Central of New Jersey, and the Reading, he said that the cost and revenues are divided 60 per cent to the Reading and 40 per cent to the Jersey Central, this representing the proportion of mileage through their respective territories. He described this joint motor coach service as similar to, and merely an extension of, the joint train service which they have operated.

At this point, the taking of Reading testimony was interrupted to permit W. M. Tiel, general passenger agent of the New York, Ontario & Western, to take the stand. He testified that there is considerable motor coach competition with the New York, Ontario & Western into its summer resort territory. In reply to a question from the examiner, Mr. Tiel said that this road operates no motor coach lines, since it has been unable to see any advantage in it.

Resuming the stand for the Reading, W. B. Gheen, assistant freight traffic manager, testified concerning truck competition in Reading territory, and said that the road is today maintaining full freight train service in spite of the inroads in its traffic on account of competition. He filed a number of exhibits showing trends in freight traffic, as a whole and by commodities.

Testimony of D. & H.

The first witness on the second day of the hearing was J. T. Loree, vice-president and general manager. Delaware & Hudson, who testified that his company had not engaged in any motor vehicle co-ordination, either directly or indirectly. Mr. Loree stated that the effect of the rapid growth in the use of motor vehicles had resulted in a marked reduction in passenger and l.c.l. freight traffic causing the passenger train mileage to be reduced 32 per cent, since 1920, and a reduction in local freight service, in some cases, to alternating days. In certain localities where passenger trains have been discontinued an arrangement is made with an independent motor coach operator to increase his service.

Continuing the testimony of the Reading, W. B. Gheen, assistant freight traffic manager, stated that if motor trucks were required to obtain a certificate of convenience and necessity and were required to publish tariffs, the railroads would be in a better position to meet this form of competition. Motor truck carriers handling traffic which they do not own, or serving more than one person or owner, should be regulated to this extent.

Under cross-examination Mr. Gheen admitted that at present the Reading is not required to file intrastate freight rates with the Interstate Commerce Commission or the Public Service Commission of New Jersey.

The next witness was F. S. Walker, president, Walker Freight Service Company. Mr. Walker described the service given by his company as that of store-door pick-up and delivery within a radius of 40 mi. of Providence, R. I., and thence by steamship to New York. They operate about 25 vehicles and pay license and insurance fees of approximately $10,000, which amount to about six per cent of the gross receipts.

New York Central Operations

The New York Central placed five witnesses on the stand to describe its rail and motor vehicle co-ordination. The first, F. E. McCormack, division superintendent at Buffalo, described in detail the contract motor truck operation as given by the Kulp Transportation Company in his territory. The service given by motor trucks is entirely a line haul substitution from station to station on the lines of the New York Central. Operations of this kind center at Buffalo, Rochester, Syracuse, Utica and Medina. The advantages of this service to the shipper is quicker delivery.

The billing of co-ordinated freight is no different than a straight rail shipment and consequently no extra charge is made to the shipper. Only l. c. l. freight is handled by the motor trucks. The advantages of this co-ordination to the railroad are the relief of congested terminals and greater economy than the operation of peddler cars. Asked by the examiner why the company did not own the motor vehicles used in this service, Mr. McCormack testified they did not want to make an investment of this kind until they were certain that the service was justified.

The second witness, H. Scott, division superintendent at Albany, stated that the operations in his territory consisted only of two short shuttle services, one running between Rensselaer and Albany and the other operating in Little Falls between the main line and the south side freight stations.

C. K. Broadhead, division superintendent at Utica, described a similar shuttle service between Utica and South Utica and also between Tupper Lake Junction and Tupper Lake. The purpose of this operation was to give quicker service to shippers.

The next witness was S. M. Kellogg, representative of the general superintendent, New York Division. Mr. Kellogg described the station to station service performed under contract by the Overland Trucking Company, operating out of Yonkers as a center. The service performed under this contract consists of a station to station pick-up and delivery along the main line and the electric division in the New York territory. The trucks leave Yonkers in the morning, distributing freight to the various stations along both divisions and return in the afternoon, picking up freight to be loaded into cars at Yonkers. From Yonkers cars are made for other distributing points located both on the New York Central and other lines.

I. M. Taylor, general passenger agent, described a motor coach service operated under contract between Alexandria Bay and Redwood. The coach meets trains at Redwood and carries passengers to Alexandria Bay. The distance covered by this connection is about seven miles.

Jersey Central Traffic Losses

The next witness was C. H. Stein, assistant to president, Central of New Jersey. Mr. Stein testified that passenger revenues had declined, between 1920 and 1929, a total of $650,000, which he attributed largely to the competition of motor coaches. He also described the special train service which the Jersey Central established in an attempt to prevent any further losses.

Mr. Stein presented exhibits showing that a total of 75 daily trips were made by motor coaches between New York and Philadelphia. Another exhibit outlined the quantity of l.c.l freight moving between various points on the New Jersey Central lines by motor truck.

In summarizing the effect of this competition on the New Jersey Central, Mr. Stein was pessimistic and stated that he believed that the situation should be corrected in such a way that the railroads could reasonably compete with the motor truck and motor coach. When asked what he meant by regulation, Mr. Stein stated that he would recommend such legislation as would bring order and system out of the present situation. He also believed that license fees should be adequate to cover the maintenance costs of the highways and that operators hours should be definitely limited, as they are with steam railroad employees. He also be-

lieved that highway common carriers should be required to adopt a standardized accounting system and to file operating reports with a regulatory body, as the railroads are now required to do.

This ended the railroad testimony on the second day of the hearing.

The traffic managers of two large shippers then gave testimony concerning the extent to which they used motor truck service, stating as conclusions that they did not believe that regulation would result in better service from the motor truck carriers and that they would be glad to give this business to the railroad if they were able to get a comparable service.

This ended the testimony of the second day.

The third day's testimony was opened by John Duffy, vice-president of traffic, Lehigh Valley, describing the competing truck and motor coach lines operating between Buffalo and New York City, paralleling the Lehigh Valley lines. Exhibits were presented showing that both the number of passenger trains and the passengers carried, within the period of 1925 to 1930, had shown a marked reduction; also, that freight traffic had been reduced in all important shipping centers. Mr. Duffy stated that efforts had been made to win back the passenger traffic by reducing rates and by selling round-trip tickets at 1⅓ the one-way rate, with negligible results.

The railroad testimony was completed by W. S. Wells, freight traffic manager, South Brooklyn Railway. Mr. Wells described the use of trailers in place of electric freight car service and also how the use of trucks had enabled the company to give l.c.l freight delivery throughout the Borough of Brooklyn.

The testimony of the traffic managers of several large shippers was then heard. H. A. Brown, superintendent of Eli. Lilly & Company, stated that his company shipped by truck within a radius of 100 miles and had found that the rates charged by the motor truck carriers were lower than rail rates, when trucking charges on each end are considered and that the service given was generally faster and cheaper than that given by the Railway Express Agency.

Mr. Brown stated that one of the principal advantages of the motor truck to the shippers was that the shipping day was extended approximately 50 per cent, due to the fact that the trucking companies received freight after 5 p. m. An example was given of overnight service to Boston. The rate by motor truck is $1 per 100 lb. and the corresponding rail rate, $.66½. The truck rate includes pick-up and delivery in both Boston and New York and enables the Lilly Company to ship three hours later in the day.

W. H. Chandler, chairman, Shipper's Conference of New York, summarized the case for the shippers, stating that members of the association which he represented had reported that in certain cases straight rail service was too slow and did not give them the door-to-door service which their customers requested. Mr. Chandler testified that the members of the Shipper's Conference had reported very slight shipping losses when using motor trucks and that every loss reported had been covered by insurance. Mr. Chandler stated that he had been trying to get the railroads in New York City to give store-door service since 1924. He was not in favor of motor truck regulation by the Interstate Commerce Commission because he considered the Commission to be primarily a railroad regulator and that consequently the rates decided upon would be discriminatory, due to the dual responsibility of the Commission. He believed that the railroads should be relieved of such regulation as prevents them from meeting any form of competition.

The hearing will be resumed at Chicago on January 5, 1931, at 10 a. m.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended December 13 amounted to 744,443 cars, a reduction of 178,418 cars as compared with the corresponding week of last year and 219,225 cars as compared with 1928. Reductions were shown as compared with both years in all commodity classifications and all districts. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, December 13, 1930

Districts	1930	1929	1928
Eastern	163,061	200,711	216,756
Allegheny	144,660	187,351	197,379
Pocahontas	44,089	60,911	57,295
Southern	117,641	143,415	152,213
Northwestern	88,824	107,863	111,597
Central Western	121,069	142,041	146,832
Southwestern	65,099	80,569	81,596
Total Western Districts	274,992	330,473	340,025
Total All Roads	744,443	922,861	963,668
Commodities			
Grain and Grain Products	39,524	43,995	51,736
Live Stock	25,583	26,868	31,665
Coal	149,150	209,641	198,520
Coke	8,541	11,919	10,925
Forest Products	34,062	52,404	61,526
Ore	6,393	8,868	10,377
Merchandise L.C.L.	219,004	245,043	251,925
Miscellaneous	262,186	322,103	346,994
December 13	744,443	922,861	963,668
December 6	787,173	933,309	984,773
November 29	702,085	836,310	900,556
November 22	779,757	949,716	1,029,237
November 15	829,251	982,926	1,056,120
Cumulative total, 50 weeks	44,635,184	51,345,761	50,021,293

The freight car surplus for the week ended December 8 reached the unprecedented total of 592,845 cars, an increase of 12,347 as compared with the preceding week. This included 318,309 box cars, 209,213 coal cars, 28,615 stock cars and 12,717 refrigerator cars.

Car Loading in Canada

Revenue car loadings at stations in Canada for the week ended December 13 totaled 50,232 cars, a decrease from the previous week of 4,345 cars and a decrease from the same week last year of 7,651 cars.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
December 13, 1930	50,232	29,832
December 6, 1930	54,577	30,032
November 29, 1930	55,394	28,004
December 14, 1929	57,883	36,537
Cumulative Totals for Canada		
December 13, 1930	3,062,597	1,653,818
December 14, 1929	3,428,260	2,031,869
December 15, 1928	3,589,166	1,977,155

PHYSICIANS of the National Railways of Mexico, at a meeting at Mexico City, recently, considered the problem of personal injury prevention on those lines. During the past year there were 6,659 personal injuries, a large number of which were fatal. An active campaign for accident prevention was agreed upon, which will include the publication of a safety pamphlet for distribution among all employees, the establishment of a school for machinists and apprentices, and the insistence upon the use of goggles in the shops.

Communications and Books

Do Railways Oversystematize?

NEW YORK.

TO THE EDITOR:

Two experiences that I have had in recent weeks have caused me to do some thinking about the present-day problems of the railway companies in attempting to hold their passenger traffic.

Twice recently I have been put to what appeared to me to be needless inconvenience over railway tickets. In both instances, I could not see why the local ticket agent could not have handled the matter directly. I wonder whether the railroads have not gone too far in building up systems for handling such matters, systems which are planned to simplify their own bookkeeping and prevent irregularities on the part of their employees, regardless of the fact that they are putting their patrons to unnecessary inconvenience in order to save themselves some little trouble or possible financial loss.

May it not be that one of the reasons why people make use of motor buses in preference to railway trains is that the motor bus companies have not yet, at least, built up elaborate systems which must be adhered to? Their organizations are new and simple; they are not bound down by tradition. I cannot help but wonder whether a thoroughgoing analysis of many things which the railroads do in the handling of their passenger business would not show that many of them could be thrown into the discard.

In most instances where you find someone with a grudge against railroads it is not based upon any serious defect but is the result of some petty inconvenience such as this ticket matter. If the railroads could find some way of abandoning many of these practices which they have come to accept as necessary because of long usage it should help them financially and improve relations with their passengers.

V. T. BOUGHTON.

Free Wood to the Needy

FLUSHING, NEW YORK CITY.

TO THE EDITOR:

The Pennsylvania and the New Jersey Central railroads are cutting up and splitting discarded ties and donating firewood to the needy at Elizabeth, N. J. This is most commendable and is in line with the many other charitable acts which the railroads generally are now contributing to alleviate human suffering. Other railroads doubtless are doing this also in various parts of the country; but, as one of your oldest subscribers, I feel that the *Railway Age* should insert an article on this subject in an early issue. This would get the attention of busy railway officials throughout the country, many of whom will be only too glad to authorize and to carry out and perhaps reduce to standard practice, for good times as well as bad and throughout the year instead of only in the winter, the conservation and the reclaiming of discarded ties and large-bulk timber for the benefit of the needy in our cities.

The costs and methods of assembly and the attempts to make profitable use of this discarded material is an old subject to the railroads and has been thrashed over for many years; but even now, when the railroads are so hard pressed to make both ends meet and are doing so much for their own employees, they should add further to their liberality and magnanimous spirit by this generous contribution of comfort to the outside needy of our cities, who are now poaching over the city dumps, building operations and railway properties in search of a few sticks of wood and lumps of coal. Under such conditions of poverty and distress it seems cruel to allow ideal firewood to be consumed in great volume along our railways and at their terminal car-shops. Here is a great opportunity at a relatively small cost for the railroads to make their further contribution.

Aside from the great spirit of generosity that now exists everywhere among corporations as well as individuals, I feel that the time is coming when it will become the regular practice for the railroads to salvage this old material for the city poor and for their own employees. The cost of doing it will be well repaid in values not measured in dollars. The roadway and stores departments can assemble this material at central plants with modern handling machinery, or even can establish power hoists, saws and drop hammers at outlying shops, where stove and furnace lengths of wood can be sawed, split and loaded at a cost which is not commensurate with the general good thus effected. Donation yards could be established in the cities, from which this fuel could be distributed during hard times through the agencies of the city fire companies, police departments and organized charities.

Will the railroads "Do It Now," when there is the greatest need? In the meantime, let us feel a warm spirit of gratitude toward the two railroads mentioned above and toward others also who already are "giving until it hurts."

SAMUEL G. THOMSON.

Model Railroads Build Boosters

MILWAUKEE, WIS.

TO THE EDITOR:

Model railroading, it can be testified by almost any model railway enthusiast, is the "prince of hobbies." A working model railroad can be controlled from a distance; can be controlled automatically through relays from the block signals or signals operated from interlocking frames; the trains can be slowed down, speeded up, started, stopped, reversed, all at will. No other kind of model affords anywhere near the enjoyment after completion or the exercise of ingenuity in the building.

And yet, thousands of American boys today are making model air planes and model ships, not nearly as much fun, simply because our boys' magazines and boys' organizations have forgotten the romance that once was and still is in railroading and are boosting these other forms of hobby. The boy of today does not know either how inexpensive it is to build a model railway, how much fun it is, or how much he will learn from doing it.

It seems to me that could model railroading among boys be encouraged in some way we would go quite a distance toward solving the problems of the railway as far as public support is concerned. A model railway will convert into an active railroad supporter not only the boy who builds it but also his father and friends and neighbors. Perhaps even more important, it will aid in bringing up a real railroader with the old time railroad spirit, the spirit that has kept our railroads going in the face of many difficulties.

A model railway, with more or less detail, but nevertheless a working model, can be built for almost any amount from five dollars up, depending somewhat on the tools available and on the ingenuity of the builder. I have seen a very creditable system in an attic, about 100 feet of track, locomotive, several freight cars, track circuit signaling, dispatching telegraph line, very complete control system—all built at a cost of less than ten dollars. The boy who built it was an eager railroad booster, taking the train when he traveled although he was nearly twenty and most of his friends had purchased automobiles. He talked for the railroads at every opportunity.

The individual railroads are glad to help the model builder with plans, specifications, and photos. But the boys do not know this. Furthermore, none of the magazines print news about model railways and offer prizes, the way they do for model airplanes. My suggestion is that perhaps the A. R. A. or the *Railway Age* could get some of the boys' organizations or

boys' magazines to give a starter article telling what can be done and what help can be obtained—and then let the boys do the rest.

ALBERT C. KALMBACH.

High Rates Restrain Commercial Travel

STAPLETON, S. I., N. Y.

TO THE EDITOR:

I am glad to see the *Railway Age* take up the passenger fare subject, which I think has possibilities.

There have been times when I should have liked to run over to Philadelphia, to Baltimore and Washington, to New Haven and Boston, but the present rate of fares always makes me hesitate, because it cuts so deeply into ready cash, especially when the incentive to go is based only on one chance in a hundred that one would get an order.

Why not advance the plan of resurrecting the 2-cent interchangeable mileage books, confine it to day coaches, if you must. I can remember the days of the six-for-a-quarter trolley tickets. Just because a man happened to have them in his pocket he would often board a car for a short distance; otherwise he would have walked.

Mileage books were always considered a good investment. We purchased them when we were in plenty of funds and put them into the safe. If an emergency arose, they were there; they were used. We would take a chance in running out to book an order, but now it is different.

I know of nothing better to meet the present danger confronting the railroads than the convention of presidents which you advocate. They must lead, as you say, and they will get plenty of assistance if they seek it.

W. VOLKHARDT,
President, American Railway Hydrant & Valve Co.

Gasoline Tonnage

CHICAGO.

TO THE EDITOR:

The article entitled "Railways Face New Competition" in the *Railway Age* of November 15, Page 1021, would not be quite so alarming if it was carried to completion. Taking your figures of gasoline consumption in the United States for the last five years from the table on Page 1023 and equating them to a daily basis for a 360-day year, we find the average annual increase in barrels per day to be approximately as follows:

1925	105,000	bbl.
1926	89,300	"
1927	116,200	"
1928	88,300	"
1929	120,000	"

The pipe lines referred to in the article have a maximum capacity of about 100,000 bbl. a day. Presuming that these are operated to 100 per cent of their capacity and that none of the gasoline hauled was distributed later on the railroads, the above figures would indicate that these lines alone could divert about the present annual increase of gasoline from the railroads all over the country. While this is not a pleasant prospect so far as increased business in the future is concerned, it would indicate that the carriers are going to have in the main about as much gasoline traffic next year as they had this year or last year. We feel also that it is most probable that a large percentage—possibly more than 50 per cent—will be transported for some distance to destination from the pipe lines.

It is interesting to note from the article that, based only on the years 1909 and 1929, the railroads have lost no volume of business and, in fact, have a little more crude movement than they did 20 years ago. If the same holds true in gasoline, they will at least hold the volume of business that they had; but we feel that a material item has been overlooked in your article and in the above figures.

For some time to come from 40 per cent to 20 per cent of each barrel of crude oil that is subjected to the refining process will produce other refined products than gasoline; and if you will refer to the National Petroleum News, of July 16, 1930, Page 87 you will find, under the heading "Domestic Demand of All Oils," a substantial increase per year beyond the indicated increase of gasoline. These products, such as fuel oil, lubricating oil, naphthas, etc., will continue to move by rail and we feel that the gasoline pipe lines are less troublesome so far as this traffic is concerned than the crude pipe lines, inasmuch as they leave these residual oils to be moved from the refining centers by railroads, whereas the pipe lines bring the entire barrel of crude close to the main consuming markets.

The net result is that the installation of clean pipe lines may divert from the carriers a good proportion of the annual increase in domestic consumption of gasoline; but it does not appear likely that the volume of business they have enjoyed heretofore will be impaired (in gasoline); and they should continue to receive about 25 per cent of the increase in all oils because the products other than gasoline will still have to move by rail.

I have felt that the present situation is similar to any new or threatened development, in that the fear of what might happen is much worse than the final result. The reason I feel that this is the case with the pipe line situation is that the figures cited indicate that if the same number of miles were added in clean pipe lines each year that were proposed and started this year, the increase in consumption of gasoline alone would take care of that new pipe line mileage without deducting anything from the carriers' present volume. This is on the basis also that none of the oil piped is transported later by railroad to destination.

It is granted that this is potentially a major branch of transportation, but it would take about $40,000,000 per year to carry out the above program before the carriers' should begin to lose their previous business; and it does not take into consideration the so-called "heavy ends" of the crude oil that cannot be transported in clean pipe lines, but which will increase in volume if the consumption of oils continues to increase from 7 to 12 per cent, as it has in the last 10 years.

ERWIN R. BRIGHAM,
President, North American Car Corporation.

Pooling All Passenger Service

OMAHA, NEB.

TO THE EDITOR:

A great deal is being said with regard to passenger service, and earnings or lack of earnings. Competition is deplored and co-operation is lauded. The pooling of service has its supporters.

Pooling of service should help, but why not go a step further? Let us create a new corporation—Railway Passenger Service—along the lines of the Railway Express Agency. This corporation would take over the passenger service of all roads in the United States. The various roads would own stock of Railway Passenger Service on the basis of passenger train or passenger car mileage for the year 1930 or some other acceptable period. The railroads would sell all passenger train cars, except obsolete cars which would not be required, to the new company. Locomotives might be sold to the new company and rented or leased to the railroads, or they might be retained by the individual lines. The roads would of course be compensated for all passenger trains hauled.

I am not a practical railroad man; I am not a railroad man, and I may not be practical. My plan may not be feasible from a practical or from a legal viewpoint. I do feel, however, that it would prove economical by

a. Eliminating unnecessary trains.
b. Permitting consolidation of terminal and intermediate stations, ticket offices and possibly coach yards.

It might be possible in many instances to run trains between cities over the shortest route, even though this route might be made up of sections of two or more roads. For example the Great Western for several years routed the "Red Bird" over Northwestern tracks between Rochester and Dodge Center, Minn., because this route shortened the distance between Rochester and St. Paul. It should be possible to run better trains by considering the needs of the public from a

general viewpoint rather than the viewpoint and financial status of various competing lines. Probably passenger service as a whole could be better interconnected and correlated because of the general viewpoint.

Last but not least, it might permit a decrease in rates and result in increased travel by rail.

A. L. RIORDAN.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

Comparative Statement of Operating Averages—Class I Steam Railways in the United States—Years 1929-1925, compiled by Bureau of Statistics, Interstate Commerce Commission. Statement No. 30200 (Eighth in the Series). Statistics for individual railroads and for United States, regions and districts showing among other things miles of road and track operated, payroll figures, locomotive, freight and passenger train and freight car performance, fuel, traffic density, operating revenues and expenses, "commodities, per cent of total tonnage carried," and transportation expenses. Much more fun for amateurs of transportation when consulted with a railroad map. 119 P. Pub. by U. S. Govt. Print. Off., Washington, D. C.

Forty-Fourth Annual Report of the Interstate Commerce Commission, December 1, 1930. Covers the work of the Bureaus of the Commission, and reports on special subjects such as appropriations and expenditures, class-rate adjustments, consolidation, co-operation of Federal and State Commissions, co-ordination of rail and motor transportation, freight-forwarding companies, practitioners before the Commission, and establishment of through routes. (List, p. iii). Usual statistical tables and appendices. 338 p. Pub. by U. S. Govt. Print. Off., Washington, D. C. 75 cents.

Fourteenth Annual Report of the United States Shipping Board. Especially the section "Merchant Fleet Corporation" p. 77-99 showing extent of vessel operations, operating results, purchasing, progress along technical lines and traffic. 135 p. Pub. by U. S. Govt. Print. Off., Washington, D. C. 15 cents.

The Lives of a Bengal Lancer, by Francis Yeats-Brown. The action of this biography begins in a railway car in 1905 with two bull-dogs and proceeds in a number of directions as the years follow each other. Not to be started if one has anything else to do but finish the book. 299 p. Pub. by Viking Press, New York City. $2.75

The Railways of Ontario—A Brief History, by William H. Breithaupt. "Reprinted with slight revision from the Ontario Historical Society's 'Papers and Records,' Vol. XXV." 11 p. Pub. not given but probably available from Author, Kitchener, Ontario, Canada.

State and Local Taxation of Property. "The present status and operation of this tax [general property tax] are comprehensively analyzed . . . In theory, the general property tax bears with equal weight upon all kinds of property. In practice, the burden varies greatly for the different kinds . . ." p. iii. 245 p. Pub. by National Industrial Conference Board, Inc., New York City. $2.50.

Periodical Articles

Across the Continent on a Limited Wardrobe. A transcontinental train trip is a fine reason to get new clothes and Vogue takes up not only what to wear but what luggage will save your own and the porter's time. Illustrated. Vogue, December 22, 1930, p. 60-61, 76.

High Roads of the Air. Rail-and-air and air services now available are outlined. Illustrated. By way of contrast to this and the railroad article there is a modern young lady *on* a camel on the cover. Vogue, December 22, 1930, p. 30-31, 86.

The Iron Horse Grows Up, by Edward Hungerford. Discusses some of the reasons why cross-country train rides are pleasurable. One of the illustrations—a cartoon—shows what may happen when a passenger brings an over-size bag into a car. Holiday, January 1931, p. 38-39, 49.

Looking Backward

Fifty Years Ago

The Washington City, Virginia Midland & Great Southern [now a part of the Southern] was sold at Alexandria, Va., on December 20, the sale subject to certain leases and contracts, one of which is a lease of the line between Strasburg, Va., and Harrisonburg to the Baltimore & Ohio. The main line of the road extends between Alexandria, Va., and Danville, 242 miles. One bid of $4,000,000 was made by Philadelphia interests but the road was sold to the purchasing committee of the bond holders for $5,600,000.—*Railroad Gazette,* December 24, 1880.

At a regular meeting of the Franklin Institute in Philadelphia last week a paper was presented with the title "Ninety Miles in Sixty Minutes; or How to Accomplish the Distance Between New York and Philadelphia in One Hour." The author believed that the only practical means of establishing a regular service between the two cities at that speed would be to construct a new line with as much tangent track as possible and with no crossings at grade with either railways or highways. He also advised a reduction in the dead weight of the locomotive and equipment.—*Railroad Gazette,* December 24, 1880.

Twenty-Five Years Ago

An unusual and interesting event in the history of transcontinental passenger service has been marked during the last 10 days by the initial trip of the Los Angeles Limited. The train departed from Chicago on December 17, and following the route of the Chicago & North Western, the Union Pacific and the San Pedro, Los Angeles & Salt Lake [now the Los Angeles & Salt Lake], arrived at Los Angeles, Cal., within its schedule time of 68 hours. No difficulty was experienced in adhering to the schedule time at Los Angeles in spite of the fact that the train was delayed for four hours by a derailment of another train near San Bernardino, Cal.—*Railway Age,* December 29, 1905.

Events have been frequent and notable in the past two weeks in the sale, resale and bankruptcy proceedings of the Cincinnati, Hamilton & Dayton [now part of the Baltimore & Ohio]. They include action by C. H. & D. directors to nullify the lease of the Perre Marquette; the formation of committees and anxious efforts by stockholders to protect their interest from extinction; resolutions of both boards of directors repudiating the purchase of the ill-fated Chicago, Cincinnati & Louisville [now part of the Chesapeake & Ohio] long after that road had passed into their control; notification by C. H. & D. officers that traffic would no longer be exchanged with the C. C. & L., and an order of the receiver requiring officers of the C. H. & D. to cease acting as officers of the C. C. & L., thus throwing that property back upon the men who had sold it in good faith.—*Railway Age,* December 29, 1905.

Ten Years Ago

A warning to railroad employees and transportation officers to obey the spirit of the Esch-Cummins law in submitting wage questions to the Labor Board before taking strike votes was issued by the board on December 17. The warning followed a hearing at which officers of two of the brotherhoods were called upon to explain why they had taken a strike vote on the Norfolk & Western.—*Railway Age,* December 24, 1920.

The consolidation of the express transportation business and property devoted to that business of the Adams, American, Wells Fargo & Co., and Southern express companies into the American Railway Express Company was approved and authorized by the Interstate Commerce Commission on December 20.—*Railway Age,* December 24, 1920.

Odds and Ends of Railroading

Waiter-Actor

The famous negro actor, Richard B. Harrison, who is now starring in the Pulitzer prize play, "The Green Pastures," was a dining car waiter for a number of years. He worked on the Chicago & Alton, the Chicago, Milwaukee, St. Paul & Pacific, and the Atchison, Topeka & Santa Fe.

Champion Continent-Crosser

Frank E. Parsons, who died recently, held a record of having crossed the American continent 12,628 times. He did it during more than 20 years as conductor on the Panama Railroad, making one or more trips across the isthmus almost daily.

An Engineman-Driver

When J. H. McMackin is not driving locomotives out of Bakersfield, Calif., for the Southern Pacific, he is driving horses in harness races. With "Chieftain," of his stable, he won the pacing championship at the Kern County fair, against stiff competition.

Youngest Veteran

ALBANY, N. Y.

TO THE EDITOR:

In a recent issue of the *Railway Age,* mention was made of a man who was said to be undoubtedly the youngest 50-year railroad veteran in the country, one Tony Pacelli, age 61, track foreman on the Pennsylvania at Chicago.

Your attention is respectfully called to the service of Andrew J. Carroll, now trainman in the Carbondale yard of the Delaware & Hudson, at the age of 59 years. As Mr. Carroll started his railroad service with this company as a water boy at Honesdale, Pa., on April 10, 1880, we believe that this entitles him to precedence over Mr. Pacelli.

H. W. FITCH,
Supervisor of Publications, Delaware & Hudson.

Tickets, Please!

The late Dr. Arthur T. Hadley was on a trip out west and, when the Southern Pacific conductor came around to collect the tickets, he had to wait patiently while Doctor Hadley ransacked a dozen pockets. But, after several minutes, the search was still fruitless, Doctor Hadley's nervous haste increased, and the conductor's patience wore thin.

"Oh, take your time," said the conductor sarcastically, "I——"

"It was here just a moment ago," pleaded the professor, beginning his wild search all over again.

"I'll come back for it," said the conductor, giving a parting glance of scorn at the professor, "but I'll tell you one thing, mister, if you'd have a place for everything, and everything in its place, you might get somewhere in the world!"

With that shot, the conductor marched on down the aisle. When he returned, five minutes later, the distinguished president emeritus of Yale university, apologetically handed him the mislaid transportation,—it was a director's pass on the Southern Pacific!—Chicago Tribune.

Fifty Years a Model Builder

When a person collects stamps, coins, books or antiques for a hobby, he usually keeps the things he collects. But A. M. P. Cowley of St. Paul, who has been building locomotives for 50 years as a hobby and is still building them in his basement machine shop at the age of 78 years, does not care what happens to an engine after he has built it. Once he has finished a model and seen it work (and all his models work), he stows it away on a shelf or gives it to a friend and starts on a new one.

"I get a kick out of building them," he says. "After I've seen an engine run, I'm through and ready to start on another."

The one exception to Mr. Cowley's rule is a perfect working model of the K-4 type of locomotive in use on the Pennsylvania, built on the scale of a half inch to one foot. The model which took him two years to complete, is mounted on a section of track, also built to scale, in his home.

Deaf-Mutes in Railway Service

That being a deaf-mute is no handicap to efficient railway service in some positions is indicated by the case of William H. Schaub, statistician, who has a record of 24 years of capable service with the St. Louis-San Francisco. Mr. Schaub is first vice-president of the National Association of the Deaf. He advises that among the deaf-mutes in railway service is one with the Rock Island at Chicago, another with the Southern at Atlanta, and a third with the Lehigh Valley, in Philadelphia.

A Convert

Abraham Smock retired a number of years ago as agent for the Pennsylvania at Guion, Ind. Mr. Smock was an ardent admirer of horse flesh. In pursuit of his business, either of a personal nature or for the railroad, he invariably rode in a buggy behind a horse of his own choosing. But eventually Mr. Smock became converted to the idea that railroad transportation, after all, in this modern age is superior to horse and buggy methods. Residents of the vicinity of Guion relate that his conversion, which was not only sudden but, in a sense, quite violent, occurred on a sunny afternoon while he was driving along a road paralleling the Pennsylvania track. A freight train thundered by and when the smoke of its passing had cleared, Mr. Smock's nostrils detected something peculiar. The odor of smoke lingered in the air. With a violent start, which started the horse down the road at a fast trot, Mr. Smock discovered his posterior anatomy to have been set afire by a spark from the locomotive. It is a matter of record that he succeeded in reining in his horse at a small creek where he quenched the fire, and that his future trips from Guion were made by railroad.

An Even Dozen Mayors

WILMINGTON, N. C.

TO THE EDITOR:

From time to time I have observed in the *Railway Age* brief articles concerning employees of steam railroads who hold position of mayor in their respective towns and cities.

It has been found that on the Atlantic Coast Line we have 12 who are mayors, and one who is president of the city council, who are as follows:

Mayors:

E. L. Jordan, roadmaster, Climax, Ga.
Oscar Starling, agent, Wade, N. C.
B. Jones, clerk, Hope Mills, N. C.
H. K. Gilbert, storekeeper, Florence, S. C.
H. C. Carter, agent, Lynchburg, S. C.
Mrs. S. E. Braswell, agent, McFarlan, N. C.
J. A. Raffield, superintendent, Sumter, S. C.
E. W. Rountree, agent, Punta Gorda, Fla.
C. G. Leitner, freight clerk, Dunnellon, Fla.
Ira Thomas, clerk-operator, Green Cove Springs, Fla.
J. H. Walker, agent, Ehrhardt, S. C.
S. T. Wright, agent, Waycross, Ga.
M. D. Black, trainmaster, president of city council, Dothan, Ala.

ROBERT SCOTT,
Editor, Atlantic Coast Line News.

NEWS

Plan of Brotherhoods Increases Employment

Voluntary reductions in mileage accepted — Trainmen consider joining A.F.L.

The conference of railroad labor executives, scheduled for Cleveland, Ohio, last week to consider a proposal for a national conference with railway executives in regard to a shorter work-day for train service employees, a shorter work-week for others, and proper regulation of competing transportation agencies, has been postponed until probably after January 1.

A. F. Whitney, president of the Brotherhood of Railroad Trainmen, announced at Cleveland on December 19 that a nation-wide unemployment relief movement that has no direct connection with the brotherhoods' aim for shorter work periods had been partly effected by the members of the trainmen, the enginemen and the firemen through voluntary reductions of individual monthly mileage. He stated that negotiations are now in progress to extend this plan to all railroads in the United States, and that it is now in effect among trainmen on the Central of Georgia, the Chicago Great Western, the Cleveland, Cincinnati, Chicago & St. Louis, the Detroit & Toledo Shore Line, the Minneapolis, St. Paul & Sault Ste. Marie, the Lackawanna & Wyoming Valley, the Boston & Maine, the Buffalo, Rochester & Pittsburgh, the Bessemer & Lake Erie, the Chicago, Indianapolis & Louisville and the Reading. Alvaney Johnston, president of the Brotherhood of Locomotive Engineers, and David B. Robertson, president of the Brotherhood of Locomotive Firemen and Enginemen, said that the local committees of their respective organizations on each road had placed the reduced mileage plan in effect on a majority of the lines in the country.

The action of the trainmen on the Texas & Pacific affords an example of the manner in which the mileage reduction is being effected. There the individual mileage for brakemen was decreased to a minimum of 3,200 and a maximum of 3,800 per month, resulting in a voluntary pay reduction of employed brakemen of about $50 per month. Officers of the local brotherhood committee estimated that this action would completely wipe out unemployment among trainmen on that road.

The trainmen's brotherhood has appointed a committee to confer with a similar committee from the American Federation of Labor to discuss the affiliation of the trainmen with the Federation. Mr. Whitney stated on December 20 that he did not think that "there are any insurmountable obstacles in the way of an agreement. Time has brought about a better feeling and I think there are possibilities for an affiliation."

As to railroads—These should be freed from restrictions which now prevent them from using highways and waterways to such an extent as will place them upon even terms with their competitors in those fields. They should be relieved of road taxes and in large part of their present obligations on grade crossing eliminations seeing that much of these are the result of new competition which should bear its share of elimination cost. And they should be treated more liberally in the matter of abandonment of facilities rendered unnecessary by their competitors—particularly as to stations.

—Thomas F. Woodlock in the Wall Street Journal

Railway Club Meeting

The Railway Car Men's Club of Peoria and Pekin will hold its next meeting on Friday evening, January 16, at the Union Station in Peoria, Ill. The discussion will be on changes in the interchange rules.

Missouri Pacific Uses Radio

The Missouri Pacific Lines have begun the broadcasting of a series of fifteen-minute radio programs in the form of topical musical travelogues over radio station KMOX at St. Louis, Mo. These programs are broadcast each night except Tuesday and Sunday.

I. C. C. Staff Promotions

Charles H. Spencer, assistant supervising engineer, Bureau of Valuation, Interstate Commerce Commission, has been appointed supervising engineer, to fill the vacancy created by the death of Carl C. Witt. Louis B. Hood, chief of the report branch, engineering section, Bureau of Valuation, was appointed to succeed Mr. Spencer as assistant supervising engineer.

Atlantic States Board Told of Railway Crisis

Col. Thom a speaker at the Washington meeting—N. Y. roads criticized

Alfred P. Thom, general counsel of the Association of Railway Executives, addressing the seventh annual meeting of the Atlantic States Shippers' Advisory Board at Washington on December 19, said that a crisis has been reached in the affairs of the railroads due to the competition of unregulated competing forms of transportation. "At one time it was considered that the railroads had a monopoly on transportation," he said, "but now they have to divide it with the unregulated buses, trucks, waterways, pipe lines, and airplanes engaged in common carrier service. The only monopoly we have now is a monopoly on regulation.

"Executives are convinced that something must be done to improve the situation," he continued. "Either transportation facilities must become inadquate or the public must pay a larger amount so that the railroads can continue to provide facilities to meet the transportation needs of the nation . . . The railroads will be no party to any effort to impose unfair conditions on any competitors. What they do ask is that conditions under which other forms of transportation competing with the railroads operate, shall be comparable to those under which the railroads have to operate. . . ."

Commodity carloadings in the territory of this board during the months of January, February and March, 1931 will average approximately 1.1 per cent less than the actual shipments made during the corresponding period of 1930 according to estimates submitted at the meeting. While a few lines of business activity are expected to show an increase the majority are expected to show a decrease. The anticipated increase in the movement of anthracite coal is largely responsible for the decrease not being greater. Improvements over 1930 are anticipated in such lines as coal (anthracite) 6.0 per cent; coke, 8.0 per cent; crushed stone, 17 per cent; fresh fruits and vegetables, 3 to 20 per cent; flour, 7.4 per cent; hay, 7.8 per cent; textiles, ranging from no change to 3 per cent increase.

To offset these increases, however, there will be a falling off in a dozen or more important commodities.

The meeting brought together about 500 representatives of the basic industries of

the territory as well as leading railroad executives.

H. E. Stringer of Washington, D. C., chairman of the board, presided at the meeting and was re-elected.

Much of the discussion at the meeting involved the question of the development of collection and delivery service at New York city and the railroads were criticized for inaction in the matter, particularly because a new railroad committee had been appointed to study the problems after, it was stated, the ground had all been gone over by previous committees representing the board and the railroads. A statement was adopted saying: "We believe the failure of the railroads to act upon this store-door delivery and pick-up service, whereby motor truck competition in a measure could be combatted, places them in the position of failing to help themselves, which position is untenable. We are further interested in knowing if the carriers' method of handling this matter reflects their belief that this board has outlived its purpose and usefulness."

Correction

Through an error, the Pacific Fruit Express Company was reported in the *Railway Age* of December 6, pages 1237 and 1238, as having been involved in the arrangements made by the New York, New Haven & Hartford for icing cars at Maybrook, N. Y. The Fruit Growers' Express was the company mentioned in the hearings.

Chairman of Florida Railroad Commission Dies

A. S. Wells, chairman of the Florida State Railroad Commission, died at his home in Tallahassee, Fla., on December 16, at the age of 65, following an illness of one day. Mr. Wells, who was born in Louisiana, and had been a member of the Florida Railroad Commission for 10 years, had been in poor health for some time.

Increased Divisions Awarded the Alton

The Interstate Commerce Commission has issued a report finding unjust, unreasonable and inequitable the divisions accorded the Chicago & Alton of the joint reshipping or proportional rates, and of joint non-transit rates, on grain, grain products and by-products, from Peoria and Pekin, Ill., via Chicago, Joliet, or Dwight, Ill., to destinations in eastern trunk-line and New England territories. Effective March 10, 1931, the commission orders the establishment of a division of 20 per cent to the Alton and the remainder to carriers east of Chicago, Joliet or Dwight.

Long Island Seeks Bus Permit in New York City

The Long Island has filed with the New York City Board of Estimate an application for authority to operate motor coaches in lieu of train service to serve communities along its Whitestone branch. The abandonment of this Whitestone branch was recently permitted by the Interstate Commerce Commission on condition that highway service be installed to serve the communities involved.

The application states that if certificates be granted, the Long Island investment in highway equipment and garage facilities would be about $350,000. It is estimated that about 28 motor coaches would be used and their operation would be supervised by Pennsylvania officials now directing the highway service of that railroad.

Milwaukee Establishes 2-Cent Rate

The Chicago, Milwaukee, St. Paul & Pacific has been granted permission by the Railroad Commission of Wisconsin, the Iowa Board of Railroad Commissioners, and the Minnesota Railroad and Warehouse Commission to establish a 2-cent per mile passenger rate in those states for a three months periods beginning January 1 to determine if business now carried by motor coaches can be won back and to what extent. The 2-cent rate will apply to coach passengers, who will be entitled to carry 50 lb. of baggage instead of the present 150 lb. The rate will be in effect on the line from New Lisbon, Wis. to Minocqua, a distance of 164 mi.; from Sturtevant, Wis. to Beloit, a distance of 61 mi.; from La Crescent, Minn. to Pipestone, a distance of 296 mi. and from Des Moines, Iowa, to Spirit Lake, a distance of 178 mi.

The Quanah, Acme & Pacific, a subsidiary of the St. Louis-San Francisco, has applied to the Railroad Commission of Texas for permission to reduce its passenger fare to 2-cents. The action follows that of the Texas & Pacific and the Texas-Mexican which were granted permission to establish a lower rate several months ago.

New Equipment Installed

Class I railroads in the first eleven months of 1930 placed 75,936 new freight cars in service, the Car Service Division of the American Railway Association has announced. In the same period last year 76,773 new freight cars were placed in service. Of the cars installed, 39,589 were box cars, an increase of 2,115 compared with the first eleven months of 1929. There were also 27,564 new coal cars, a reduction of 1,074. In addition, there were installed, 3,622 flat cars, 3,847 refrigerator cars, 913 stock cars, and 401 miscellaneous cars. The railroads on December 1 this year had 3,884 new freight cars on order compared with 30,569 on the same day last year, and 14,375 on the same day two years ago.

The railroads also placed in service in the first eleven months this year 744 new locomotives, compared with 716 in the same period in 1929. New locomotives on order on December 1 this year totaled 92 compared with 299 on the same day last year. Freight cars or locomotives leased or otherwise acquired are not included in the above figures.

Bus Bill In Committee

The bill for the regulation of motor bus transportation, which the Senate has recommitted to the committee on interstate commerce, was considered by the committee in executive session on December 18 when Commissioners Eastman and Brainerd of the Interstate Commerce Commission appeared before the committee to discuss the bill. Commissioner Eastman appeared as chairman of the commission's legislative committee and Commissioner Brainerd because he is in charge of the investigation now being conducted into the matter of the co-ordination of motor and rail transportation. The commission in its annual report urged that consideration of the pending bill be not delayed because of its co-ordination investigation.

Waugh Hearings Reopened

The Federal Trade Commission will reopen hearings in New York on January 12, 1931, for the purpose of gathering further evidence pursuant to its complaint against the Waugh Equipment Company and officers of Armour & Co. for alleged unfair practices incident to the sale of draft gear to railroads. The announcement marks the resumption of hearings which were begun last spring but were postponed until the settlement of a controversy over the admissability of certain evidence the attorneys for the Federal Trade Commission sought to introduce. The questions were debated in October before that Commission, which allowed the introduction of certain of the letters, and suit will now be pushed to completion with hearings in New York and Chicago.

American Express Tours to Mexico

The first of a series of eight 18-day tours which the American Express Company is operating to Mexico during the winter months, left Chicago on December 20 with 25 persons. The tours, which leave every two weeks, are carried over the Illinois Central to St. Louis, the Missouri Pacific from St. Louis to Laredo, and the National Railways of Mexico from Laredo to Mexico City. After visiting various points of interest in Mexico, including Pueblo, Orizaba and Guadalajara, the tours will return over the Missouri Pacific to New Orleans, La., and then over the Illinois Central to Chicago.

Hawaiian "Boat Trains"

The Atchison, Topeka & Santa Fe and the Chicago & North Western-Union Pacific announce further boat trains from Chicago to Los Angeles and San Francisco to connect with steamships to Hawaii. Cars for the boat trains will be moved over the Pennsylvania and the New York Central from New York to Chicago where they will

be turned over to the lines operating west from there. The Santa Fe will run boat trains on January 21 and February 11 to Los Angeles while the North Western-Union Pacific will run them on January 21, February 4 and February 18 to San Francisco. By means of this service, the time required to travel from New York to Hawaii is reduced to six days.

Great Lakes Advisory Board

The Great Lakes Shippers' Advisory Board held its regular meeting at the Statler Hotel, Buffalo, N. Y., on December 18. The reports of the commodity committees, in the aggregate, indicated a slight decrease in the expected volume of carload traffic during the first quarter of 1931 as compared with the preceding year; but a number of the committees reported indications of hopeful increases. The principal expected increases are: grain, 7 per cent; fresh fruits, other than citrus, 19 per cent; fresh vegetables other than potatoes, 16; sugar, syrup, etc., 20. The principal expected decreases are hay, straw and alfalfa, 6½ per cent; ore, etc., 43; gravel, etc., 5; salt, 8; lumber, etc., 10; machinery and boilers, 15; automobiles, 13.

Commutation Ticket Good for Year

A season ticket which looks like an annual pass and which is used in substantially the same way—though it has to be paid for—is a novelty which has been introduced by the Central of New Jersey, for the use of commuters between New York City and stations on the main line as far as Raritan, 37 miles, including also the Newark branch and the South branch. This ticket is sold at twelve times the price of a monthly ticket and has been provided for the convenience of passengers who wish to avoid the inconvenience of making a new purchase each month. The ticket does not have to be punched by the conductor. The purchaser signs his name on the face of the ticket when it is bought. No conditions are printed either on the front or the back, except the one sentence "Subject to tariff regulations."

More Liberal Stopovers

One way tickets with stopover privileges good for 30 days will be in use on a majority of the railroads in the United States after February 1, judging by the number of lines which have expressed the intention of adopting this practice as a means of regaining passengers who enjoy a similar privilege offered by motor coach companies. This new arrangement was started by eastern carriers on August 1, 1930, and was placed in effect by southeastern carriers recently. The western and transcontinental lines are planning to adopt this form of ticket on February 1. Under the new plan a ticket can be used within 30 days after date of purchase, as compared with present arrangements whereby a ticket purchased must be used within 24 hrs. unless the patron secures a cancellation. In addition a patron who purchases a ticket between two points may, after he boards the train, stop off at any point en route and then continue his journey.

Waterway and Motor Vehicle Lines Form Association

An association for the protection of the interests and rights of waterway and motor vehicle transportation lines against the growing movement to regulate and tax such forms of transportation more rigidly was organized in New York on December 19. The new association, which is to be known as the Water Lines and Motor Vehicles Association of the United States, is headed by Colonel Edward C. Carrington, chairman of the Great Lakes-Hudson Waterway Association and president of the Hudson River Night Line, at whose invitation representatives of various river and highway transportation companies met to discuss plans for opposing legislation designed to bring inland and coastwise water lines and motor vehicle lines under regulation by the Interstate Commerce Commission.

Rehearing Asked in Western Divisions Case

Counsel for the southwestern carriers have filed in the Supreme Court of the United States a petition for a rehearing of the case in which the court rendered a decision on November 24 sustaining an order of the Interstate Commerce Commission granting an increase in the divisions received by western trunk line roads out of through rates from southwestern territory. Counsel say in the petition that the court has inadvertently erred in holding that the evidence before the commission was sufficient to sustain the order, and that there was no evidence as to any carrier concerning the amount of revenue required to pay its operating expenses, taxes and a fair return. It is also asserted that the court has misapprehended the effect of various statements in the commission's report.

Appropriation for Mail Transportation

An appropriation of $127,000,000 for the inland transportation of the United States mails by railroad and for mail messenger service, in the fiscal year 1932, is provided in the Postoffice appropriation bill as recently passed by Congress. At the hearing on the bill before a sub-committe of the House appropriations committee there was some criticism by members of the committee of the practice of large publishing companies of sending their magazines to the more distant zones by freight and paying second-class mail rates only for the shorter distances. Postmaster General Brown said the department is now preparing a case before the Interstate Commerce Commission "to show the inequity of permitting the railroads to charge the Curtis Publishing Company less than they charge us." "The only solution we have been able to devise that would be helpful," he said, "would be to persuade the Interstate Commerce Commission to make the railroads and other common carriers charge, for carrying the material which is subject to the second-class postage rate, a rate high enough to put it on a competitive basis with us." He pointed out, however, that the department is receiving a preferential service from the railroads for which the commission has fixed the rate; but the congressmen in their criticisms failed to note the distinction between mail and freight service.

Pennsylvania Cab Signals

Chairman McManamy and Examiner Mullen of the Interstate Commerce Commission heard testimony of representatives of the Pennsylvania on December 23 on its application for authorization to operate pooled locomotives equipped with cab signals over territory equipped with automatic train control and the forestaller system under the commission's automatic train control order and specifications. A. H. Rudd, chief signal engineer, and R. G. Bennett, general superintendent of motive power, eastern region, testified regarding the operation of the cab signals as compared with the use of wayside signals and eight locomotive enginemen testified regarding the operation from their point of view. Mr. Bennett said that the annual maintenance cost per engine mile with the stop and forestaller is 6 mills whereas with the cab signals it is 4 mills. The enginemen expressed a preference for the cab signals as compared with the wayside signals, saying that the system as operated by the Pennsylvania gives the engineman control of his own braking as well as giving warning of a dangerous condition in the block after the passing of the wayside signal.

Ontario Liberals Favor St. Lawrence Project

The St. Lawrence river canalization and power project as a joint venture of Canada and the United States has been endorsed in full by a convention of the Liberal Party in Ontario. A resolution was passed which urged upon the Dominion Government the advantages of concluding an early treaty with United States on the project. The resolution follows in part:

"Resolved, that the policy of obstruction by the Provincial Government of Ontario of the development of the St. Lawrence river for navigation and power be stopped;

"That the Government not only cease opposition to the Federal Government but urge the Federal Government to conclude a treaty with the United States as a result of which deep navigation and the development of cheap power on the St. Lawrence will be provided;

"That Ontario agree to construct power houses on the Ontario side of the St. Lawrence river and to pay to the Federal Government a rental for the head of water created by the navigation works sufficient to bring about the construction of those works.

"This convention recognizes that this policy will produce a completed St. Lawrence navigation project and will greatly reduce the cost of additional power, thereby conferring great benefits upon the people of Ontario by the settlement of a question which has been purposely con-

fused by the Conservative administration of Mr. Ferguson."

"33 By 33"

The slogan "33 by 33" has been adopted for railroad safety departments during the next three years, according to the circular which has been issued by L. G. Bentley, chairman of the Committee on Education, Safety Section, A. R. A., which has been issued for the month of January—which, however, is not for a single month, but for a whole year.

This slogan, as was explained in the *Railway Age* of December 20, page 1309, means that the improvement in safety among employees which has been accomplished in the last seven years is so encouraging that there is a strong feeling that in the next three years—by the end of 1933—another reduction of 33 per cent can be made. Mr. Bentley believes that those railroads which have already made the most favorable records will be the first to say "IT CAN BE DONE."

The circular shows graphically the improvement which has been made since 1923. The aim at the beginning of the seven-year period was to make a horizontal reduction, in casualties per million man-hours equal to five per cent per annum. The way in which this estimate was exceeded is indicated by the following statement of the cumulative percentage.

1924, reduction over 1923	11 per cent
1925, reduction over 1923	16 per cent
1926, reduction over 1923	23 per cent
1927, reduction over 1923	37 per cent
1928, reduction over 1923	48 per cent
1929, reduction over 1923	55 per cent
1930, reduction over 1923	68 per cent

A letter is quoted from President R. H. Aishton, A. R. A., calling attention to the fact that in a commission of this kind "no battle is ever won. You advance from point to point; as soon as one objective is reached, another objective lies before you. The battle will never be won until railway accidents shall have well nigh become a thing of the past."

H. P. Robinson Dead in England

Sir Harry Perry Robinson, whose death at his home in Minehead, England, is reported in press dispatches of December 22, was an American writer and journalist, and for several years was president and manager of the *Railway Age*, at Chicago, being the chief owner of the paper. His connection with it began in 1891 but was terminated in 1901, several years before the *Railway Age* and the Railroad Gazette were merged to form the present *Railway Age*. Sir Harry was knighted by the King of England in 1920 for his services during the world war as correspondent of the London Times.

Mr. Robinson was born in the East Indies on November 30, 1859, and was educated in England at Westminster School and Oxford University and he first came to the United States in 1883. He settled in Chicago in 1884. He began his career as railway journalist by the establishment of the Northwestern Railroader at St. Paul, Minn., in 1887, and the consolidation of that paper with the *Railway Age*, in 1891, brought him to Chicago. In 1896 he served as chief of the railway department in McKinley's presidential campaign.

During the world war he was in Belgium, in Serbia, on the western front, and at Cologne, Germany.

Mr. Robinson was the author of a number of novels and of monographs on railway subjects and national finance. While working on Chicago and New York newspapers during his earlier career he was held to be one of the five best short story writers of the day and he won fame as a special correspondent during the Klondike gold rush.

He was twice married, first in 1891 to Miss Mary Lowry of Minneapolis, and in 1905 to Miss Florence Anne Tester.

British Report on Automatic Train Control

The automatic train control committee of the Ministry of Transport, Great Britain, which was appointed in 1927, has completed its report (dated November 3, 1930) and the Stationery office, London, has issued it in pamphlet form, at six pence a copy. This committee of nine members was appointed to consider the whole broad subject and in particular to review the conclusions of an earlier committee (1922). The chairman was Colonel Sir John W. Pringle, chief inspecting officer of railways (now retired) and it embraced in its membership C. B. Collett, chief mechanical engineer of the Great Western, and E. A. Wilson, chief engineer of the Metropolitan (underground) of London. The Great Western has in operation the only extensive and full-fledged automatic train control system in Britain (or anywhere outside the United States) and the Metropolitan uses an automatic stop of the same general type as that in use in the subways of New York City.

The present report begins with an elaborate statement of the high degree of safety already attained on the railroads of Great Britain under the universal use of the block system (including electric train staff) on both double-track and single-track lines. Emphasis is placed on the need of uniformity throughout England, Scotland & Wales, and the time of the committee has been largely taken up in studies of line clearances, etc., this having been done with the cooperation of the railway companies. Large numbers of inventions have been examined.

All American systems of automatic train control are virtually rejected and the only system which the committee regards as fully developed to meet railway requirements in Great Britain is the ramp system now in use on the Great Western (the installation of which on a large additional mileage, during the coming year, was noticed in a recent issue of the *Railway Age*). This type, says the committee, is sufficiently reliable even under snow and ice conditions for general adoption.

Following a page of specifications designed to make the Great Western System universally usable, the report considers other and "indirect" methods of increasing security. These include better windows in locomotive cabs, better positioning of wayside signals, improved signal lights, amendments to the manual block signaling rules; better instruction of firemen and improved service of fog men.

The committee concludes that it will be for each railway company to determine on what sections of its line the "indirect" or the "direct" means for increasing safety should be adopted. The exploration of the general question of automatic train control should be actively continued. The committee does not attempt to estimate what it would cost to carry out its recommendations.

Further details of the conclusions and recommendations of the committee will be made the subject of a future article.

Railroad Life in 1835

The Railway & Locomotive Historical Society (Harvard Business School, Boston, Mass.) has issued its bulletin No. 23. It is dated November, 1930 and is made up largely of two principal subjects; the history of the Grand Trunk of Canada, filling about 40 pages, and an article by Charles E. Fisher, president of the society, giving copious extracts from a book, in the nature of a diary, recording the performance of the locomotives on the Boston & Worcester during the first winter of its operation. The Boston & Worcester was the first steam railroad put in operation in Massachusetts and the notes copied in this bulletin, which fill about a dozen pages, give the intimate history of the operation of the locomotives on the 44 miles of that road during two winters.

The items in this diary in each case begin with the name of the locomotive, indicating that the matter was originally put in writing by a mechanical officer or some one connected with his department. The first engines were the Meteor and the Yankee; in the next year (1835) the road acquired the Comet, the Rocket, the Mercury and Jupiter, all built by Robert Stephenson.

Following are sample items from this diary. In reading them the distances to be borne in mind are (from Boston) crossing of the Boston & Providence, one mile; Newton, 7 miles; Charles River bridge, 11 miles; Needham, 15 miles; Natick, 18 miles; Framingham, 22 miles; Westboro, 32 miles; Worcester, 44 miles. The road was opened for business as far as Westboro in November, 1834, and to Worcester July 4 1835.

Feb. 2, 1835—"Meteor"—Went down 1½ miles and brought "Yankee' and her passengers up. Her hose had frozen.

Feb. 7, 1835—"Meteor"—Snow on rails, wheels revolve, but do not go ahead.

Feb. 13, 1835—"Meteor"—One passenger car wheel shaft broke today. No other injury done. Five minutes detention.

Feb. 11, 1835—"Comet"—One of the freight wheels broke and smashed car all to pieces. Did a little damage to the freight—detained about 20 minutes.

Feb. 23, 1835—"Yankee"—When coming around Parker's Hill, forward shaft of engine came apart in center where it had been attempted to be welded by Mr. Tufts, "but was not." Passengers brought in by horses and the "Comet" brought the "Yankee" in.

Mar. 14, 1835—"Yankee"—At Natick pond, three journals on one freight car

were found broken off short. Took the car off the track and then went on.

Mar. 22, 1835—"Meteor"—Snowing, hailing, and freezing. The "Meteor" and "Yankee" left Boston with 15 cars and a scraper. Went to Parker's Hill and had to leave one-half of train, went on to Angers corner, backed down and hauled the hind cars up and carried this train to Charles River Bridge, pushed the front end to Needham, backed for the hind end of the train and left it at Needham turnout. Got the front end of train to Framingham, left it and went to Westboro with the scraper arriving there at 8½ p.m.

Apr. 16, 1835—"Yankee"—When returning with seven freight cars from Westboro, they struck a cow near Moss Hill, Natick. Engine and tender were derailed and "shaft of tender wheels bent," but no other damage was done.

Apr. 22, 1835—"Meteor"—The crank shaft on this engine broke at Natick. They obtained horses and put passengers and baggage into two cars and went on with only 25 minutes delay.

Aug. 5, 1835—"Rocket"—At Parkers Hill, five miles out, a piece of timber used for crossing rail on turnout was on the track. Engine was thrown off, one spring broken, both tender shafts broken and one square passenger car "broken to pieces, but the 15 persons who were in it were not hurt."

Dec. 22, 1835—"Comet"—A rail was placed on the track at the gravel bank. Engine went over it, bent crank and forward shafts and broke all of her springs.

Jan. 25, 1836—"Mercury"—Engine was sent out to clear the track, got as far as the bridge and broke end frame of engine. Haulded back to Worcester by oxen.

Feb. 4, 1836—'Comet"—Hose came off, got under wheel and broke supply pipe and pump.

Feb. 8, 1836—On this day the "Lion" and "Jupiter" left with the snow plow and got as far as Natick when they became stalled in the snow. The "Yankee" was despatched and got them to Needham Depot. On the 12th these three engines tried to clear the line and got as far as Westboro. There are no entries that a single engine turned a wheel on Feb. 9, 10 and 11.

Feb. 25, 1836—"Rocket"—Sent to Grafton, 12 miles, to pick up the freight cars left by the "Jupiter" in consequence of a strong head wind.

July 16, 1836—"Yankee"—In backing out with the passenger cars for the 11 o'clock train, wheel on the right crank shaft came loose and the "Wm. Penn" went with the train.

Aug. 2, 1836—"Lowell" — On the directors' train. Was only 1 hour and 35 minutes running to Worcester.

Sept. 21, 1836—"Comet"—Switch on bridge was wrong. Engine and cars ran off the track, baggage car was slightly injured by rail of bridge running through it. Engine springs were set. "Meteor" went on with the passengers.

Jan. 24, 1837—"Yankee" and "Lion"—Left at 8 a.m. and within one mile of Hopkinton found four feet of snow. Broke the crust, which was six inches thick, and ran through to Hopkinton. From there the road was fairly well cleared until we arrived at Framingham. From Framingham to Natick nothing had been done. We got three ox teams to go ahead and break the crust and did some shovelling until we arrived at Natick.

July 13, 1837—"Mercury"—At Natick a freight car axle broke. Took the freight out, loaded it in another car and pulled the damaged car off the track.

Sept. 6, 1837—"Lion"—Apparently an express train of some sort has been added to the passenger schedule for this engine is running on a schedule of one hour and 17 minutes from Boston to Worcester.

Sept. 8, 1837—"Lion"—The report states that Engineer Bullar arrived 15 minutes before his time, making the running time in one hour and two minutes (44 miles).

Rock Island's New Year's Resolution

A New Year's message which J. E. Gorman, president of the Chicago, Rock Island & Pacific, is sending to employees, seeks their assistance and that of friends in securing active and continuous cooperation toward a better appreciation of the value of railway service. The message follows:

"We enter 1931 with renewed faith and resolution in our chosen field. For over a century the railroads have been the backbone of transportation in America. They will continue to be the best instrument toward advancing business and industry because railroads are typically an American institution founded on the principle of broad public service and necessity.

"With this in mind railway management today is urging cooperative effort between those who regulate the railways, those who own them, those who operate them, those who work for them, and those who use them, in order that an adequate system of transportation for the present and for the future may be assured.

"The public demands adequate railway service. The railroads will meet this demand if unregulated modes of transport, at present unfair to the public and to the fully regulated railroads, are brought under proper control. In seeking this recognition the railroads will be carrying forward, this year, a campaign of vital interest to the shipping and traveling public so that a safe, adequate and permanent system of transportation may be maintained for the nation.

"To this program the Rock Island heartily subscribes, and our employees and friends everywhere are urged to assist, by every fair means, in securing active and continuous cooperation of all toward a better appreciation of the value of railway service.

"May the New Year carry us far on a new highway to success."

Southern Pacific Temporary Relief Fund

The Southern Pacific is planning to establish an employee relief loan fund by means of which all employees will contribute to the relief of former employees who lost their positions because of the recent necessity for retrenchment. To establish the fund, each employee will agree to permit the auditing department to deduct one per cent of his salary or wages, effective after January 1, and the company will contribute an amount equal to that subscribed by the employees. This arrangement is to continue for six months unless more prosperous conditions eliminate the necessity for its continuance. Under the direction of a special committee, the relief fund may be drawn upon by employees who are in financial difficulties and whose families need aid. Such contributions will not be in the nature of charity but will be designated as loans, which may be paid back if circumstances permit and without interest.

When the need ceases, all further contributions from the employees will be stopped and any money on hand together with loans repaid will be returned to the subscribers, pro-rata, at least once a year and more often if the amount justifies. The cost of administration of the funds will be borne by the company. The doctors of the hospital staff have offered to furnish their services without charge in caring for sickness in the families of all laid-off employees who receive loans from the fund.

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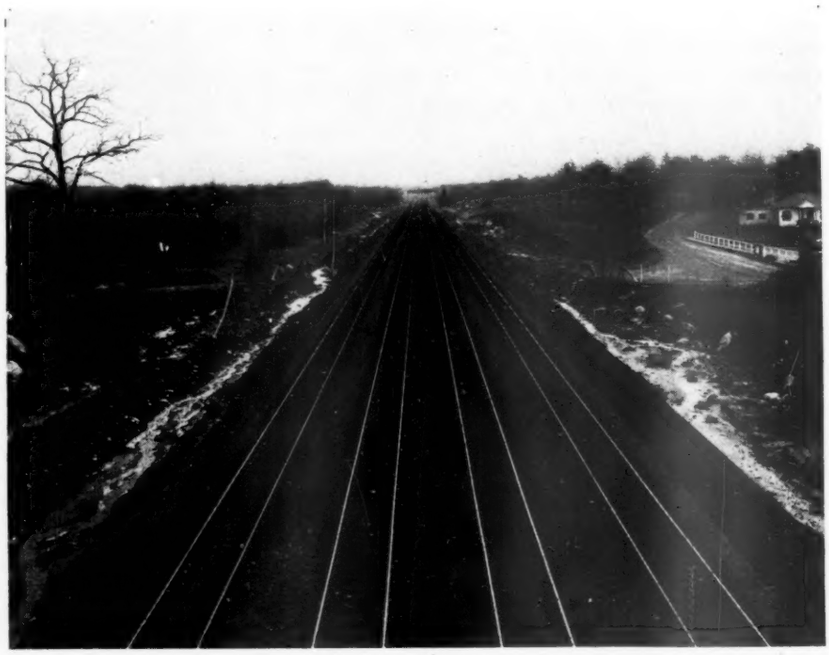

Four-Track Main Line of the D. L. & W. in Northern New Jersey

Equipment and Supplies

Locomotives

THE CANADIAN PACIFIC has ordered one double track snow plow to be built at its Angus shops.

THE CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC has postponed for 30 days the ordering of 57 locomotives, inquiry for which was reported in the *Railway Age* of December 6.

THE NEW YORK CENTRAL has placed orders for 50 passenger locomotives of the Hudson (4-6-4) type to cost about $5,000,000. Contracts for 30 of these for service on the New York Central and 10 for service on the Cleveland, Cincinnati, Chicago & St. Louis were let to the American Locomotive Company. A contract for 10 for service on the Boston & Albany were let to the Lima Locomotive Works. Inquiry for this equipment was reported in the *Railway Age* of November 29. All the engine trucks and the trucks of five tenders will be equipped with S K F bearings.

Freight Cars

THE FREEDOM OIL WORKS COMPANY is inquiring for seven tank cars.

THE UNION RAILROAD is inquiring for 20 air dump cars of 50 cu. yds. capacity.

THE ILLINOIS STEEL COMPANY is inquiring for 15 ingot cars.

THE CARNEGIE STEEL COMPANY is inquiring for 30 hopper cars of 70 tons' capacity.

THE FRUIT GROWERS EXPRESS is inquiring for 50 steel underframes for refrigerator cars. This is in addition to an inquiry for 20 underframes reported in the *Railway Age* of December 20.

THE SANITARY DISTRICT OF CHICAGO has ordered 25 dump cars from the Western Wheeled Scraper Company. Inquiry for this equipment was reported in the *Railway Age* of November 29.

THE CANADIAN PACIFIC has placed orders for 450 freight cars as follows:

No.	Type	Capacity	Builder
250	Rrefrigerator	.....	National S. C. Corp.
100	Flat	.....	Eastern Car Co.
35	Air Dump	30 cu. yd.	Can. Car & Fdy.
40	Gondola	75 tons	Can. Car & Fdy.
25	Tank	.....	Company Shops

Passenger Cars

THE CANADIAN PACIFIC has ordered 55 new passenger train cars as follows: 25 sleeping cars, 10 coaches and 10 tourist cars; the frames to be built by the Canadian Car & Foundry Company and the cars completed at the Canadian Pacific shops at Angus. An order for 10 baggage and express cars was given to the Canadian Car & Foundry Company.

Iron and Steel

THE DENVER & RIO GRANDE WESTERN has ordered 10,000 tons of rails from the Colorado Fuel & Iron Co.

THE ILLINOIS CENTRAL is inquiring for 700 tons of structural steel for a bridge at Rockport, Ky.

THE UNION PACIFIC is inquiring for 1,000 tons of structural steel for miscellaneous bridge work.

THE DELAWARE, LACKAWANNA & WESTERN has ordered 130 tons of steel for a bridge in New York state from the American Bridge Company.

THE CHICAGO, BURLINGTON AND QUINCY has ordered 300 tons of structural steel for a viaduct at Lincoln, Neb., from the Vierling Steel Works.

THE NEW YORK CENTRAL has placed orders for 170,000 tons of rail, inquiry for which was reported in the *Railway Age* of December 6. The orders were divided as follows:

Tons	Builder
71,500	Bethlehem Steel Company
62,600	Illinois Steel Company
13,900	Inland Steel Company
11,380	Carnegie Steel Company
8,620	Algoma Steel Company
2,000	Dominion Steel & Coal Corp.
Total 170,000	

One-half of this tonnage is for prompt delivery and one-half for future specifications.

Miscellaneous

THE CANADIAN PACIFIC will buy four Jordon ballast spreaders and three Browning hoists and pile drivers.

Supply Trade

The American Hoist & Derrick Co., St. Paul Minn., has purchased warehouse facilities in Chicago.

The R. H. Hyland Company, 225 West Huron street, Chicago, has been appointed representative of the **Verona Tool Works** for the Chicago territory to succeed **Porter Laughlin**, resigned.

The Pangborn Corporation, Hagerstown, Md., has opened district sales offices in Cincinnati, Ohio, and Milwaukee, Wis. **Thomas J. Dougherty** has been appointed special sales engineer at the home office to cover the Hagerstown district.

The Globe Steel Tubes Company, Milwaukee, Wis., has organized a subsidiary, the **Globe Stainless Tube Company**, to carry on a business of engineering, designing and manufacturing stainless steel tubes and tubular installations for corrosion and heat-resisting purposes. The principal officers of the new company will be the same as of the Globe Steel Tubes Company and sales will be handled through the same offices in principal cities.

Construction

BUREAU OF RECLAMATION.—This bureau of the Department of the Interior will receive bids at Las Vegas, Nev., until January 12 for the construction of a railroad from Summit, Nev., near Boulder City townsite, to Hoover Dam, Boulder Canyon project, Ariz., Nev., 10 miles. The construction will involve 473,700 cu. yd. of open-cut excavation and 26,000 cu. yd. of tunnel excavation and includes track laying and ballasting.

CANADIAN PACIFIC.—A contract for the driving of a tunnel from Burrard Inlet, Vancouver, B. C., to this company's False Creek yard, to eliminate seven street crossings, and for placing a 24-in. reinforced concrete tunnel lining, has been awarded to the Northern Construction Company and J. W. Stewart, both of Vancouver. The tunnel will be about 4,600 ft. in length and the entire project will involve an expenditure of about $1,750,000. The cost will be apportioned among the Canadian Pacific, the City of Vancouver and the British Columbia Electric. This company plans the expenditure of about $1,250,000 for the construction of a passenger station and for other improvements at Regina, Sask. The station will be for the joint use of the Canadian Pacific and the Canadian National and will be erected on the C. P. R. property immediately adjacent to its present structure. It will, in general, consist of the reconstruction and enlargement of the present building, to provide a structure three stores high with an underground entrance to the station platform. The two top floors will be utilized for railroad offices. To accommodate the Dominion Post Office Department and the Canadian Pacific telegraph a two-story building will be constructed to adjoin the main station building. Other buildings which will be a part of this project will include a power plant and an ice house. It is expected that construction of these facilities will be completed during 1932.

ERIE.—The New York Public Service Commission has ordered the construction of a new highway bridge to carry this company's Rochester branch over the Geneseo-Avon County highway in Avon, N. Y. The new structure, 970 ft. long, is to replace an existing highway undercrossing, which is considered dangerous, and is to cost about $84,000.

MISSOURI PACIFIC.—This company receives bids until December 29 for the revision of grades on 30 miles of line between Delavan, Kan., and Gypsum City on its line between Kansas City, Mo., and Pueblo, Colo. This reconstruction will involve 1,260,000 cu. yd. of excavation.

NEW YORK CENTRAL.—The New York Public Service Commission has designated for elimination the Sinpatch crossing of this company's tracks about two

miles south of Wassaic station, Amenia, N. Y. The elimination will be accomplished by carrying the highway over the railroad and an adjacent creek at a point about 280 ft. north of the existing crossing at a cost of $167,000, of which $98,000 will be charged to the joint grade crossing elimination fund and $69,000 to the New York State Department of Public Works.

NEW YORK CENTRAL.—The Public Service Commission of New York has advised this company that it does not consider excessive the bid of $400,200 submitted by W. H. Gahagan, Inc., Brooklyn, N. Y., for the reconstruction of the bridge carrying Ridge road, Lackawanna, N. Y., over the tracks of the New York Central, Erie, Pennsylvania, New York, Chicago & St. Louis, and Lehigh Valley. The commission has also directed the railroad to award the necessary contract and proceed with the work. The commission has further approved a revised estimate of cost totaling $194,000 for the reconstruction of the bridge carrying Bridge street over the New York Central tracks in East Syracuse, N. Y.

PACIFIC GREAT EASTERN.—S. F. Tolmie, president of this road and premier of British Columbia, announced recently that a party of engineers had discovered a suitable crossing of the Cottonwood River Canyon which would make possible the extension of this railroad from Quesnel, B. C., to Prince George.

PORT OF NEW YORK AUTHORITY.—The Port of New York Authority has awarded to the Klosk Contracting Company, New York, the contract for the clearing of the site, bounded by Eighth and Ninth Avenues and Fifteenth and Sixteenth streets, on which the Port Authority is to construct its first union inland freight terminal. The amount involved is $64,000, and work under the contract is to be begun soon after January 1 and completed within 60 days. It was reported in the *Railway Age* of November 22 that bids were to be received for this work.

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The Union Pacific's "Continental Limited" near San Bernardino, Cal.

Financial

ALABAMA GREAT SOUTHERN.—*Bonds.*—This company has been authorized by the Interstate Commerce Commission to procure the authentication and delivery of $500,000 of its first consolidated mortgage 5 per cent bonds, series A, in partial reimbursement for capital expenditures previously made.

BALTIMORE & OHIO.—*Time For Disposal of Western Maryland Extended.*—The Interstate Commerce Commission on December 22 granted a further extension of time from January 13 to June 13 of the period in which this company is required to divest itself of its stock in the Western Maryland under the commission's order of January 13 in the anti-trust case.

BATESVILLE SOUTHWESTERN.—*Abandonment.*—Examiner O. D. Weed of the Interstate Commerce Commission has recommended in a proposed report that the commission approve the abandonment of this company's line from Batesville to Crowder, Miss., 16.93 miles.

CENTRALIA TERMINAL.—*Stock.*—The Interstate Commerce Commission has denied the application of this company for authority to issue $45,000 of capital stock. This decision was based upon a previous order of the Commission, dated July 14, which denied the Centralia Terminal's application for a certificate of convenience and necessity to construct, acquire and operate lines of railroad in Lewis County, Wash. Inasmuch as this previous application for authority to construct and operate the proposed railway was not granted, the present order holds that an issue of stock to procure funds for such construction and acquisition will be unnecessary.

CHICAGO, BURLINGTON & QUINCY.—*Acquisition.*—The Interstate Commerce Commission has authorized this company to acquire and operate the 3.7-mile line of the Lowell & Southern in La Salle county, Ill.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—*Bonds.*—This company has been granted authority by the Interstate Commerce Commission to procure the authentication and delivery of not exceeding $457,000 of its first and general mortgage 5 per cent bonds, series A, in partial reimbursement for capital expenditures previously made.

DENVER & SALT LAKE.—*Contract for Use of Cut-Off.*—The Interstate Commerce Commission has granted an extension to March 1 of the time allowed in its decision authorizing the building of the Dotsero cut-off connecting this company's line with the Denver & Rio Grande Western, for the filing of a draft of a contract providing for operation over the line by the D. & R. G. W.

GULF & WEST TEXAS—*Stock.*—This company has been authorized by the Interstate Commerce Commission to issue $300,000 of its common stock consisting of 3,000 shares to be sold at par to the Southern Pacific. The sale involves transfer of control to the latter as authorized in the same order.

MICHIGAN CENTRAL.—*Abandonment.*—This road has been authorized by the Interstate Commerce Commission to abandon its Johannesburg branch extending from Sallings Junction to Johannesburg, about 15 miles, all in Otsego County, Mich. The same order permits the New York Central to abandon operation of the branch.

MOBILE & OHIO.—*Securities.*—This road has been authorized by the Interstate Commerce Commission to issue $6,000,000 of refunding and improvement 5 per cent mortgage bonds to be pledged as collateral, for 5 per cent secured gold notes which the Commission has also authorized this company to issue in the amount of $5,000,000 to be sold at not less than 96¾ per cent of par and accrued interest. The proceeds will be used to retire outstanding bonds and to reimburse the treasury in part for capital expenditures previously made.

NEW YORK CENTRAL.—*Commercial Value of Ulster & Delaware.*—Examiner Thomas D. Walton, of the Interstate Commerce Commission, has recommended in a proposed report that the commission should decline to approve the report of a majority of the arbitrators appointed to decide the commercial value of the Ulster & Delaware and should find that the commercial value of its properties is $2,900,000. W. W. Colpitts and W. S. Kinnear rendered a finding that the commercial value of the property to the New York Central was $4,100,000, while J. H. Hustis, arbitrator chosen by the New York Central, found that the commercial value was $1,813,333. The New York Central, contending that the finding of the majority was not responsive to the question placed before them, had asked the commission to approve its acquisition of the property, as one of the conditions imposed by the commission in the unification case, for the amount found by Mr. Hustis, or that it fix the value de novo, while the Ulster & Delaware contended that the report of the majority was binding. Examiner Walton says the commission should hold that the award of the arbitrators was erroneous in principle and contrary to the preponderance of the evidence, and, if accepted, would result in the Ulster's receiving a substantial portion of the financial benefits resulting from a unification of its properties with those of the Central.

PRINCE GEORGE & CHESTERFIELD.—*Bonds.*—This company has been authorized by the Interstate Commerce Commission to issue $248,000 of its first-mortgage, 25-year, 6 per cent bonds, series A., to be sold to the Seaboard Air Line at par, the proceeds to be used to pay an equal amount of advances made or credits extended by the Seaboard to the applicant.

SEABOARD AIR LINE.—*Receivership.*—Receivers in equity for the property of this company were appointed on Decem-

ber 23 by Judge Groner, sitting at Norfolk, Va., in the United States District Court for the Eastern district of Virginia. L. R. Powell, Jr., president of the Seaboard and E. W. Smith, vice-president of the Pennsylvania are the receivers. The bill of complaint was filed by the Bethlehem Steel Company. The Seaboard issued the following statement in connection with the receivership:

Messrs. L. R. Powell, Jr., and E. W. Smith were this afternoon appointed receivers in equity of the property of Seaboard Air Line Railway Company by Judge Groner of the United States District Court for the Eastern District of Virginia.

Since the designation on Nov. 7 of committees representing the various classes of the company securities and of Messrs. Dillon, Read & Co. and Ladenburg, Thalmann & Co., as readjustment managers, constant negotiations have been going on between the company, the managers and the committee looking toward a readjustment plan.

Messrs. Coverdale & Colpitts and E. N. Brown, under the direction of the managers, have also been making an intensive study of the property and its financial requirements and these studies have indicated that the company will fail to earn its fixed charges in 1930 by approximately $4,250,000 and that a drastic reorganization, involving the foreclosure of mortgages, will be necessary.

In view of this necessity and of the inability of the company to meet its large approaching maturities, the company deemed it in the interests of all its security holders that it should consent to the appointment of receivers at this time.

The negotiations between the companies, the managers and the committees have advanced sufficiently to justify the hope that a definite plan of reorganization can be announced in the very near future.

Mr. Powell has been president of the company since 1927. His co-receiver, E. W. Smith, has been vice president of the Pennsylvania Railway Company, in charge of operation, central region. He has resigned his position with the Pennsylvania and plans to devote his entire time to the Seaboard.

ST. LOUIS-SAN FRANCISCO.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire the Mississippi Western, which has a line from Victoria to Stoffles Landing, Ark., 2 miles.

TEXAS & PACIFIC.—*Notes.*—This company has applied to the Interstate Commerce Commission for authority to issue, sell and deliver $13,000,000 of notes, the proceeds to be used to pay short term loans, to reimburse the treasury and for other purposes. They are to be sold at a price to make the net cost not over 6 per cent.

THE SOUTHERN PACIFIC.—*Acquisition.*—This company has been authorized by the Interstate Commerce Commission to acquire, by purchase of capital stock, control of the Gulf & West Texas.

WESTERN NEW YORK & PENNSYLVANIA.—*Acquisition.*—This company, controlled by the Pennsylvania, has applied to the Interstate Commerce Commission for authority to acquire control of the Connecting Terminal Railroad, by purchase of its stock at par from the Pennsylvania.

Average Prices of Stocks and of Bonds

	Dec. 23	Last week	Last year
Average price of 20 representative railway stocks.	81.31	76.63	126.72
Average price of 20 representative railway bonds..	91.63	89.44	92.44

Dividends Declared

Ann Arbor.—Common, $27; Preferred, $5, both payable December 31 to holders of record December 29.

Baltimore & Ohio.—Common, $1.75, quarterly; Preferred, $1, quarterly, both payable March 2 to holders of record January 17.

Central of New Jersey.—$2, Extra, payable January 15 to holders of record December 31.

Great Northern.—Semi-annual, $2.50, payable February 2 to holders of record December 29.

Kansas City Southern.—Common, quarterly, $1.25, payable February 2 to holders of record December 31; Preferred, quarterly, $1, payable January 15 to holders of record December 31.

Louisville & Nashville.—Semi-annual, $3.50, payable February 10 to holders of record January 15.

Northern Central.—Semi-annual, $2, payable January 15 to holders of record December 31.

Reading.—Common, quarterly, $1, payable February 12 to holders of record January 15.

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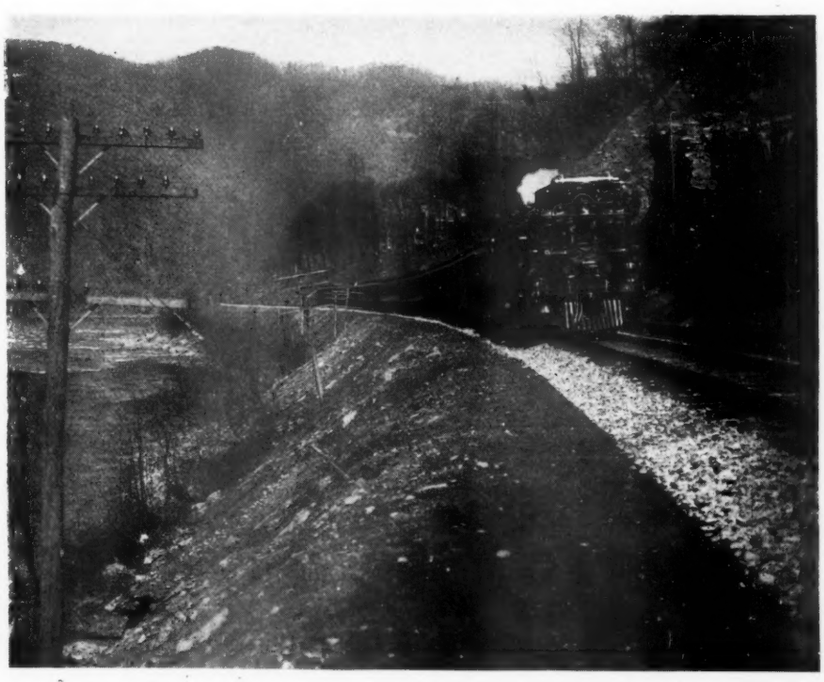

The "Sportsman"—New De Luxe Train of the Chesapeake & Ohio

Railway Officers

Financial, Legal and Accounting

Owen W. Dynes, general solicitor of the Chicago, Milwaukee, St. Paul & Pacific, has been appointed general counsel, succeeding **Herman H. Field,** who, at his own request, will retire as general counsel on January 1, but will retain a connection with the Milwaukee as special counsel. **Carl S. Jefferson,** general attorney, has been elected general solicitor, succeeding Mr. Dynes.

Operating

The headquarters of the superintendent of the Hildalgo division of the National of Mexico, **D. S. Alonso,** have been removed from the Peralvillo station to the Buenavista station in Mexico, D. F.

Courtland P. Hunt has resumed his former position as trainmaster of the Idaho division of the Northern Pacific at Spokane, Wash., following a leave of absence. Mr. Hunt succeeds **Thomas Summers,** who has been appointed chief dispatcher of the Pasco division at Pasco, Wash.

Effective January 1, 1931, **J. H. Walsh,** vice-president and general manager of the Quebec Central, will, at his own request, be relieved of active management of the railway, but will continue in a consultative capacity, retaining the position of vice-president and his seat on the board of directors. **G. D. Wadsworth,** assistant general manager, has been appointed to take over the active

J. H. Walsh

duties of the management, with the title of general manager.

Mr. Walsh, who was born on May 12, 1860, at Quebec, Que., and was educated at the Quebec Commercial Academy, entered railway service in September, 1876, as a junior clerk in the contractor's office of the Quebec, Montreal, Ottawa

& Occidental (now a part of the Canadian Pacific). From 1879 until 1880, he served as clerk in the freight and ticket office at Quebec. From 1880 until January 1, 1881, he was traveling auditor for the same road, and from January 1 until June 1, 1881, served as auditor of the Levis & Kennebec (now a part of the Quebec Central). Mr. Walsh became auditor of the Quebec Central on the latter date, which position he held until June, 1885, when he was appointed general freight and passenger agent of the same road. In January, 1906, he was appointed general manager of the same road. From September 1, 1901, until January, 1911, he was also vice-president of the Temiscouata, and since 1911 has served as president of that board. He was appointed vice-

G. D. Wadsworth

president of the Quebec Central, in addition to his duties as general manager, in October, 1927, which positions he has since held.

Mr. Wadsworth was born on July 15, 1884, at Sherbrooke, Que. He entered railway service in November, 1889, as messenger boy on the Quebec Central, and from November, 1900, until October, 1904, was consequently clerk in the car service department and stenographer to the superintendent. From October, 1904, until January, 1906, Mr. Wadsworth served as clerk and stenographer in the general freight and passenger department, and at the latter time became chief clerk in the same department, remaining in that position until March, 1916, when he was appointed assistant general freight and passenger agent. In January, 1918, he was appointed general freight and passenger agent and in February, 1928, he was promoted to assistant general manager, which position he will relinquish to become general manager.

Mechanical

J. W. Surles, who has been promoted to superintendent of motive power of the St. Louis-San Francisco, with headquarters at Springfield, Mo., effective January 1, has been connected with the mechanical departments of the Illinois Central, the Southern Pacific, the Frisco and the Grant Locomotive & Car Works at Houston, Tex., for 39 years. The

J. W. Surles

positions he has held have included those of superintendent of shops of the Southern Pacific at Houston and of the Frisco at Springfield, being appointed to the latter post in 1923. A complete sketch of Mr. Surles' railway career appeared in *Railway Age*, May 3, 1930, page 1110, at the time of his promotion to assistant superintendent of motive power of the Frisco.

Engineering, Maintenance of Way and Signaling

H. G. Dalton, assistant engineer of buildings of the Chicago, Burlington & Quincy, has been promoted to engineer of buildings, with headquarters as before at Chicago.

R. W. E. Bowler, division engineer of the Pittsburgh division of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been promoted to engineer maintenance of way of the Northern division, with headquarters at Buffalo, N. Y., succeeding **C. L. Barnaby,** deceased.

Traffic

A. C. Stickley, traveling passenger agent for the Northern Pacific at San Francisco, Cal., has been promoted to general agent at Victoria, B. C., succeeding **E. E. Blackwood,** retired.

C. A. Cairns, passenger traffic manager of the Chicago & North Western, was re-elected chairman of the executive committee of the Western Passenger Association, at a meeting in Chicago, on December 9.

F. H. Hocken, assistant to the freight traffic manager of the Western Pacific, has been promoted to assistant freight traffic manager in charge of solicitation, with headquarters as before at San Francisco, Cal., effective January 1. A sketch of Mr. Hocken's railway career, accompanied by a reproduction of his photograph, appeared in the *Railway Age* of November 16, 1929, at the time of his promotion to assistant to the freight traffic manager.

E. L. McCaulley, who was appointed freight traffic manager of the Western Maryland, as announced in *Railway Age* of December 13, page 1300, entered the employ of that road in 1916, as chief clerk in the freight traffic department. During the war, Mr. McCaulley was an officer in the Air Craft Production Service and in January, 1919, he returned to railroad service in the traffic department of the combined Baltimore & Ohio and Western Maryland. In 1921, he was appointed freight traffic agent and in 1924 assistant general freight agent at Baltimore. On February 1, 1927, he was appointed general freight agent of the Western Maryland, the position he held until his recent promotion.

Obituary

Paul A. True, general agent for the Peoria & Pekin Union at Indianapolis, Ind., died in the Mayo hospital at Rochester, Minn., on December 8.

Henry S. Hanson, vice-president of the International Railways of Central America, died at New York on December 19, following an operation.

Carl C. Witt, supervising engineer, Bureau of Valuation of the Interstate Commerce Commission, with headquarters at Washington, D. C., died in that city on December 16. Mr. Witt, who had been engaged in valuation work for the Interstate Commerce Commission and several state railroad commissions for 23 years, was born at Indianapolis, Ind., in 1870. He graduated from Purdue University in 1892 and obtained his first engineering experience in the same year as a draftsman in Chicago. From 1895 to 1898 he was engaged in bridge design for the Lassig Bridge & Iron Works (now part of the American Bridge Company) at Chicago, then becoming chief draftsman on heavy track and bridge construction on the Chicago & North Western. In 1907 he was appointed chief engineer of the South Dakota Railroad Commission, then becoming chief engineer of the Kansas Public Utilities Commission in 1910. From 1913 until his death Mr. Witt served with the Bureau of Valuation of the Interstate Commerce Commission, as district engineer of the Western district and as a member of the Engineering Board at Kansas City, Mo., from 1913 to 1921, as assistant supervising engineer at Washington from 1921 to 1924, and since April, 1924, as supervising engineer.

W. S. MENEFEE, traveling passenger agent of the Missouri Pacific with headquarters at Los Angeles, Cal., has been elected president of the Southern California Passenger Association.